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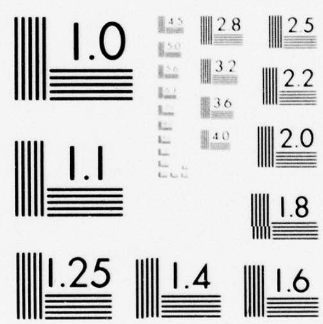
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Summaries of observations from moored stations taken during POLYMODE Array I are presented. Currents and water temperatures were measured at various depths, including 500, 800, 1000, 2000 and 4000 meters.

Data series are of 9 months duration from August 1974 to May 1975.

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Cont

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Selected CTD data are presented as potential temperature and salinity values plotted against pressure, and as T-S diagrams.

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6 A COMPILATION OF MOORED CURRENT METER DATA AND ASSOCIATED OCEANOGRAPHIC OBSERVATIONS. VOLUME XIX. POLYMODE ARRAY I DATA.

by

10 Ann Spencer, Carol Mills
~~and~~ Richard Payne

WOODS HOLE OCEANOGRAPHIC INSTITUTION
Woods Hole, Massachusetts 02543

15 N00014-66-C-0241, N00014-74-C-0262

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Approved for Distribution: [signature]
Valentine Worthington, Chairman
Department of Physical Oceanography

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Summaries of observations from moored stations taken during POLYMODE Array 1 are presented. Currents and water temperatures were measured at various depths, including 500, 800, 1000, 2000 and 4000 meters.

Data series are of 9 months duration from August 1974 to May 1975.

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Selected CTD data are presented as potential temperature and salinity values plotted against pressure, and as T-S diagrams.

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Composite plots

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Basic data presentation

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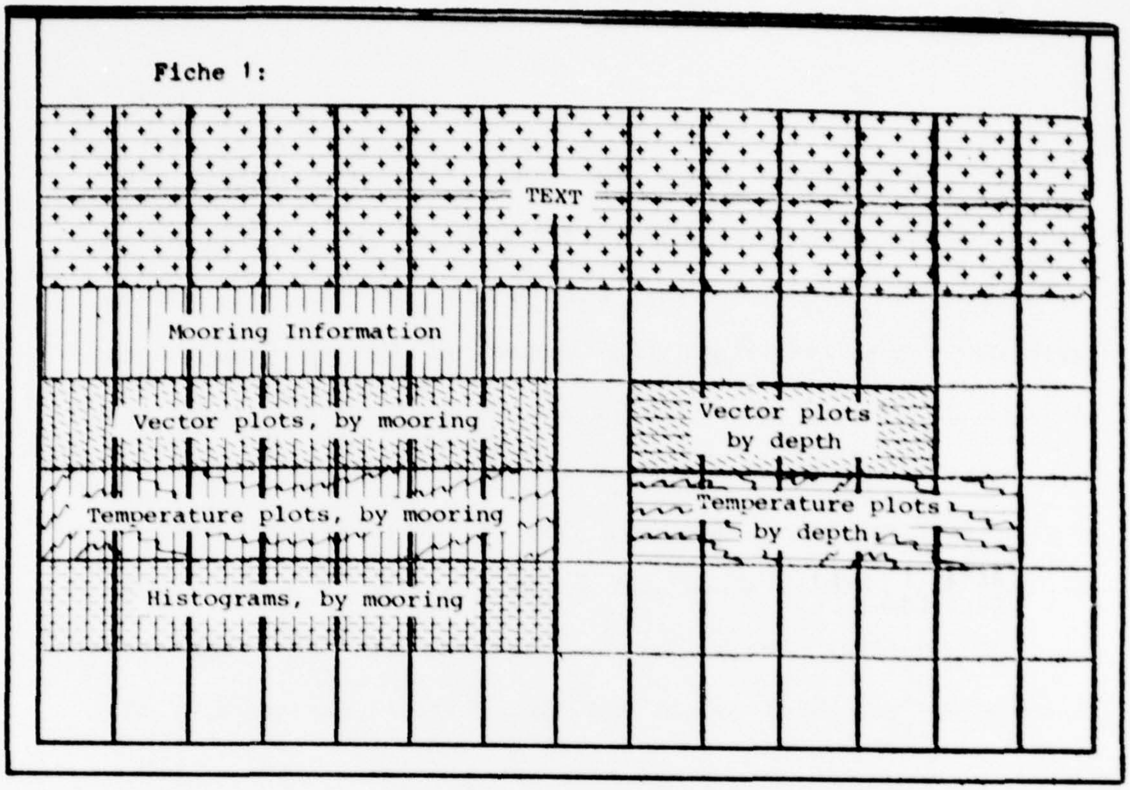

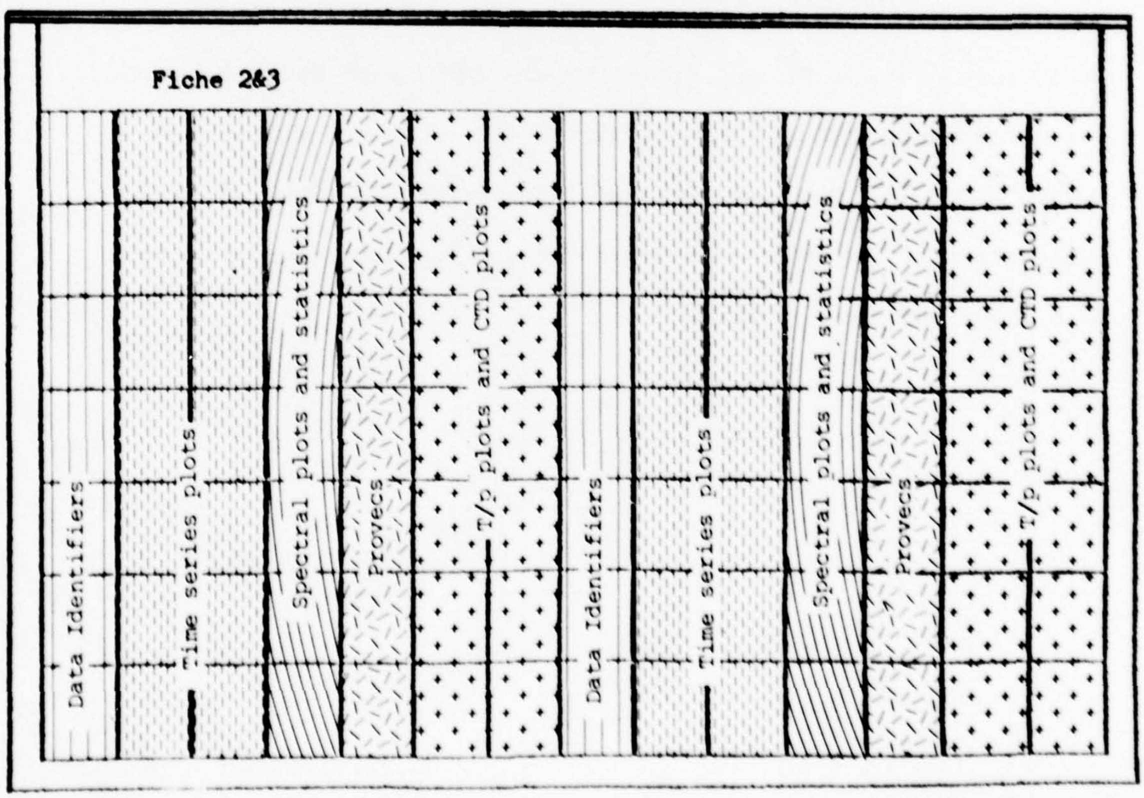

Acknowledgments

Many people should share the credit for the excellent data return and the quality of data obtained during the POLYMODE Array 1 Experiment, in particular the people in the buoy group instrument shop and those who worked on the moorings, both hardware and design. The officers and crews of the R.V. Knorr and R.V. Chain deserve special mention for their willing assistance in mooring deployment and recovery. The principal investigator for the POLYMODE Array 1 experiment is Dr. William J. Schmitz, Jr. The T/P data is courtesy of Dr. Carl Wunsch. CTD data were recorded and processed by the W.H.O.I. Physical Oceanography CTD group.

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PREFACE

This volume is the nineteenth in a series of Data Reports presenting moored current meter and associated data collected by the W.H.O.I. Buoy Group.

Volumes I through XVIII present data from the years 1963-1971, and from several special experiments: the 1970 Pollard array, the 1973 IWEX array, the 1973 MODE array, the MODE Site moorings, the Saint Croix mooring measurements, the POLYMODE Array II experiment, and the 1978 JASIN array.

Volume XIX presents data from POLYMODE Array 1.

Volume #	W.H.O.I. technical ref. #		Notes year	expt.
I	65-44	Webster, F. and N. P. Fofonoff		
II	66-60	Webster, F. and N. P. Fofonoff		
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VIII	75-7	Pollard, R.T. and S. Tarbell	1970	Array Data
IX	75-68	Tarbell, S., M. G. Briscoe and D. Chausse	1973	IWEX Array
X	76-40	Tarbell, S.	1969a	measurements
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XII	76-101	Chausse, D. and S. Tarbell	1973	MODE Array
XIII	77-18	Tarbell, S. and A. W. Whitlatch	1970	Measurements
XIV	77-41	Tarbell, S., R. Payne and R. Walden	1976	mooring 592 Saint Croix
XV	77-56	Tarbell, S. and A. W. Whitlatch	1971	measurements
XVI	78-5	Tarbell, S. and A. Spencer	1971-1975	MODE Site
XVII	78-49	Tarbell, S., A. Spencer and R. E. Payne	1975-1977	POLYMODE Array II
XVIII	78-93	Tarbell, S., M. G. Briscoe and R. A. Weller	1978	JASIN

Presentation

The report can be divided roughly into three parts: text, displays of current meter and T/P data as arrays, display and description of the data as individual records. The first two parts are included in the printed portion of this report; all three parts appear in the microfiche inside the back cover.

Sheet 1 of the microfiche contains the complete text. Sheets 2 and 3 contain displays of the individual data records with records 542-546 shown on sheet 2 and records 547-549 on sheet 3. The detailed layout of the data on the microfiche sheets is shown in the table of contents.

Introduction

The POLYMODE program is an international cooperative scientific investigation of the dynamics and statistics of the mesoscale motions in the sea, the energy sources of these motions, and their contribution to the general circulation of the ocean. POLYMODE includes theoretical investigations, experiments, and field observations. Of the field observations, the largest is the statistical geographic experiment designed to determine the distribution of energy levels and space and time scales of the eddy field throughout the western North Atlantic using current meter arrays, SOFAR float arrays, and hydrographic and XBT work.

Results from the Mid-Ocean Dynamics Experiment (MODE) and from a few other moorings suggested that mesoscale eddies might be an important factor in the North Atlantic circulation and that kinetic energy at deep levels (4000m) seemed to increase with decreasing distance from the Gulf Stream. POLYMODE Array 1 (see Fig.1 and Table 1. for locations and dates of moorings) was designed particularly to investigate energy levels east and north of the MODE-1 site. Selected results from Array 1 have been described by Schmitz (1976,1977,1978).

Current Meter Types

The current meters described in this report were either Model 850 current meters built by Geodyne, now a part of EG&G, or Vector Averaging Current Meters (VACMs), built by AMF Sea Link Systems (now EG&G Sea Link Systems).

The VACM senses compass and vane information and computes a measure of east and north water current components each time a pair of rotor magnets passes the sensing diode, then sums these components through the entire recording interval, usually 15 minutes, thus giving a true vector average. One complete rotor revolution initiates eight compute cycles.

Temperature is derived from a voltage-to-frequency converter (v/f), whose output frequency is related to the thermistor resistance at its input. The v/f output pulses are summed over the entire recording interval thus averaging temperature. All variables are recorded on a cassette tape at the end of each recording interval. Temperatures are accurate to about $\pm$ .01°C (Payne et al., 1976).

Temperature/Pressure Recorder

An instrument to record temperature, pressure and time (T/P) was developed in the Draper Laboratory at M.I.T. for MODE-1 and used extensively on the post-Mode moorings. The instrument stores a sample every 15 seconds and records the sum of 64 successive data samples every 16 minutes on a magnetic tape cassette (64 x 15 = 960 seconds = 16 minutes).

Temperatures have a resolution of .001°C (Wunsch and Dahlen, 1974). The absolute accuracy cannot be specified because the thermistors have not been calibrated since the original calibration by the manufacturer.

The pressure sensor is a strain gauge with a manufacturer specified accuracy of .03% of the scale range used (Wunsch and Dahlen, 1974). These sensors are recalibrated for each instrument deployment.

CTD

A device to measure conductivity, temperature, and pressure, manufactured by Neil Brown Instrument Systems, Inc. (Brown, 1975), was used at POLYMODE mooring sites to obtain vertical profiles of these quantities. Plots of temperature and salinity versus pressure, and T/S plots are included for each mooring site. The data were collected on R. V. Chain cruise 116. The plots are presented on fiche 2, columns 6 and 7 and on fiche 3, columns 13 and 14.

Time

Time from T/Ps, 850s and VACMs was measured using a quartz crystal oscillator with a manufacturer's specified accuracy of ± 1 second per day.

In this report time is denoted by year-month-day hour.minute.second.

Moorings

The POLYMODE Array 1 mooring configuration is shown in Figure 2 and a summary of mooring locations and durations is given in Table 1. The moorings were all of the intermediate type (Heinmiller, 1976). A complete list of the components of each mooring is shown on microfiche, in sheet 1,row C. The following abbreviations have been used on fiche and in Table 2:

VACM	Vector averaging current meter.
DT	VACM which also measures temperature. difference over a 1.74 m vertical separation.
850	Model 850 burst sampling current meter.
T/P	MIT temperature and pressure recorder.
3/8" chain & spheres	Refers to the indicated length of chain bolted every meter to a 16" or 17" glass sphere (in hard hat).
**	'Milliman samples', samples attached in position indicated to measure corrosion.
anchor	a Stimson anchor connected to one or two Danforth anchors with parachutes on the bridle.

Current Meter Data Processing

Data recorded on magnetic tape in the current meters (1/4" 2-track cartridges in Model 850's and 1/8" 4-track cassettes in VACM's) were transcribed to 9-track computer compatible tape at W.H.O.I. The data were then converted to scientific units (decoded) and stored on magnetic tape in Maltais format (Maltais, 1969)

Editing the data included selecting start and stop times, adjusting the nominal depth of some records to agree with information supplied by the T/Ps, applying corrections to temperature indicated by post cruise thermistor calibrations, correcting the temperatures to a constant depth, computing vector averaged components for the data from burst sampling Model 850 instruments, removing erroneous records and interpolating through the resulting gaps in the data.

Some of the displays show low-passed data. For these, a symmetrical running Gaussian filter with a half width of 24 hours and a window of width 24 hours was applied to the basic data.

Table 2 indicates which variables are presented. The abbreviations are as follows:

v	current vector
t	temperature
p	pressure
s	current speed

Current meter data quality

Overall, the data return was about 72%. A total of 9 moorings with 37 current meters and 23 T/P recorders was set. Seven moorings with 31 current meters and 20 T/P recorders were recovered. Seven of the Model 850 current meters ran out of magnetic tape before the end of deployment and so achieve less than 100% data return. For the current meters recovered, the data return was about 95%. Five of the T/P recorders returned no data. Overall data return for the recovered T/P recorders was about 70%.

Minor problems with the current meters and other problems affecting the data are noted in the statistics sections on micro-fiche (fiche 2 and 3, columns 4 and 11).

POLYMODE Array 1 temperature corrections

Because of the occasional high currents seen by parts of this array and the resulting depth variations of the moorings, it was desirable to attempt to correct to a constant depth the temperatures from both T/P's and current meters. To make this correction it was necessary to know both the depth of an individual instrument as a function of time and the temperature gradient between its measured depth and the nominal depth to which the temperature was to be corrected. Current meter depths were interpolated from T/P pressures. Temperature gradients were obtained from CTD profiles made in the vicinity of each mooring on the setting cruise.

There is no way to determine the accuracy of the corrections; no one was there to make observations during the periods of high currents. Applying the corrections, however, yields temperatures which appear to be a better approximation of temperature at a constant depth than do the uncorrected temperatures.

Temperatures were corrected down to depths of either 1000 or 2000 meters depending on how much depth variation there was on the mooring. Below 2000 meters temperature gradients are too small to make the correction worthwhile.

Data Identifiers

The following example will illustrate the scheme that is used to insure that each data series has a unique identifier:

5427B1DG24A

542	- The first three digits are the mooring number.
7	- The relative instrument position starting at the top of the mooring. 1 denotes the top instrument.
B	- The position of the letter in the alphabet indicates the amount of editing that has been done. The symbol $ means no editing has been done.
1DG24 1DGAU24	- a 1-day subsampled Gaussian filtered series, the filter having a half width of 24 hours.
A	- Additional editing has been done after the series was filtered.

Analysis and Display Programs

Statistics. (STATS)

A number of statistical quantities are computed for both the current meter and T/P recorder parameters. For the scalar variables, means, standard error, variance, kurtosis, skewness, minima and maxima are computed. Mathematical expressions used to compute these parameters can be found in earlier data reports, for example Tarbell, Payne and Walden (1977). In addition, covariance, correlation coefficient, orientation (of principal axes), major axis, minor axis and ellipticity are computed for east and north vector components of current. These are described in Tarbell, Spencer and Payne (1978).

Progressive Vector Diagram. (PROVEC)

The progressive vector displacements are plotted. These are derived by multiplying the average speed in an interval by the interval length and joining the resulting vectors head-to-tail. The plot begins with an asterisk (*). All following month boundaries are indicated by the symbol + .

Variable vs. time plot. (DISPLO)

This is a diagram of any variable plotted as a function of time.

Vector Stick plots. (DISPLO)

The 24 hour averaged components are plotted as individual vectors along a time scale. Unless otherwise indicated, the vector orientation is such that north is up.

Histogram plots. (HISTO)

Histogram plots are presented in which the frequency of occurrence of values is plotted against the value of the variable. The frequency is expressed as a percentage of the total. The variables presented are speed and direction.

Spectra.

The program TIMSAN (Time Series Analysis) (Hunt 1977) uses the Fast Fourier Transform algorithm of Singleton (1969) and is restricted to data segments of length N points, where N must be an even number which has no prime factor larger than 5, and must be less than 8000 points.

The number of degrees of freedom for the first 40 plotted points is given by $\nu = a\,m\,s$, where m is the number of adjacent frequency bands being averaged, s is the number of independent data pieces being averaged, again as stated in the label, and a is 2 for temperature spectra and for Horizontal Kinetic Energy (HKE) spectra for which the EAST and NORTH components seem highly correlated.

The log-log plot is further averaged during plotting so that more and more points are averaged together as frequency increases. This eliminates the bunching together of points at high frequencies, increases the degrees of freedom of the high frequency estimates, and still permits low-frequency resolution.

Averaging is as follows:

Plotting Pts.	Frequency bands averaged over	Data points	Cumulative data pts.	Degrees freedom
First 40	5	200	200	10
Next 15	10	150	350	20
Next 6	25	150	500	50
Next 6	50	300	800	100

In this way, for example, 750 data points would be plotted as only 66 points. The m in the formula $\nu = a\ m\ s$ for degrees of freedom is, in this example, 10 times larger at the highest frequencies than at the lowest frequencies.

For $\nu \geq 30$, the confidence limits for the spectral estimates are given approximately by $(1 - 2/9\nu \pm z\sqrt{2/9\nu})^3$ where $z = 1.28$ for 80% confidence limits, $z = 1.65$ for 90% , $z = 1.96$ for 95% and $z = 2.58$ for 99%. In the example above, if the HKE spectral plot label had indicated 2 pieces and averaging over 8 adjacent frequency bands then $\nu = 2 \times 2 \times 8 = 32$ for the lowest frequencies (assuming NORTH and EAST components are highly correlated) and $200 \times 32 = 6400$ for the highest frequencies. The 95% confidence intervals (i.e., 95% of the time one would expect the spectral estimates to vary no more than this much) would be (0.57, 1.55) at low frequencies, and (0.97, 1.03) at high frequencies.

For $\nu < 30$, one must obtain confidence intervals from Chi-squared distribution tables in standard statistical references.

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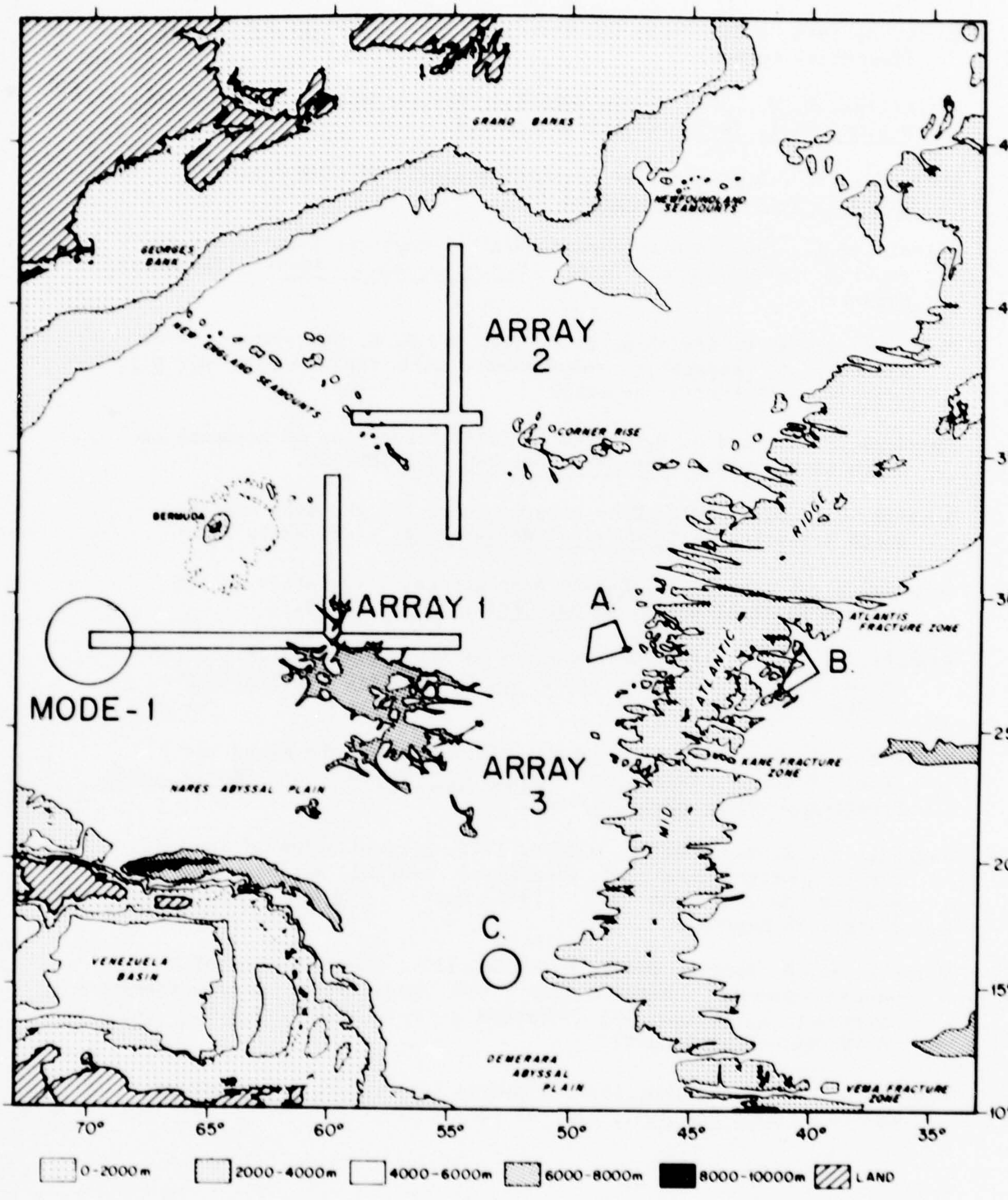

GRAND BANKS
NEWFOUNDLAND SEAMOUNTS
GEORGES BANK
NEW ENGLAND SEAMOUNTS
ARRAY 2
CORNER RISE
BERMUDA
RIDGE
ARRAY 1
A.
ATLANTIS FRACTURE ZONE
ATLANTIC
B.
MODE-1
ARRAY 3
KANE FRACTURE ZONE
NARES ABYSSAL PLAIN
MID
C.
VENEZUELA BASIN
DEMERARA ABYSSAL PLAIN
VEMA FRACTURE ZONE
45°
40°
35°
30°
25°
20°
15°
10°
70°
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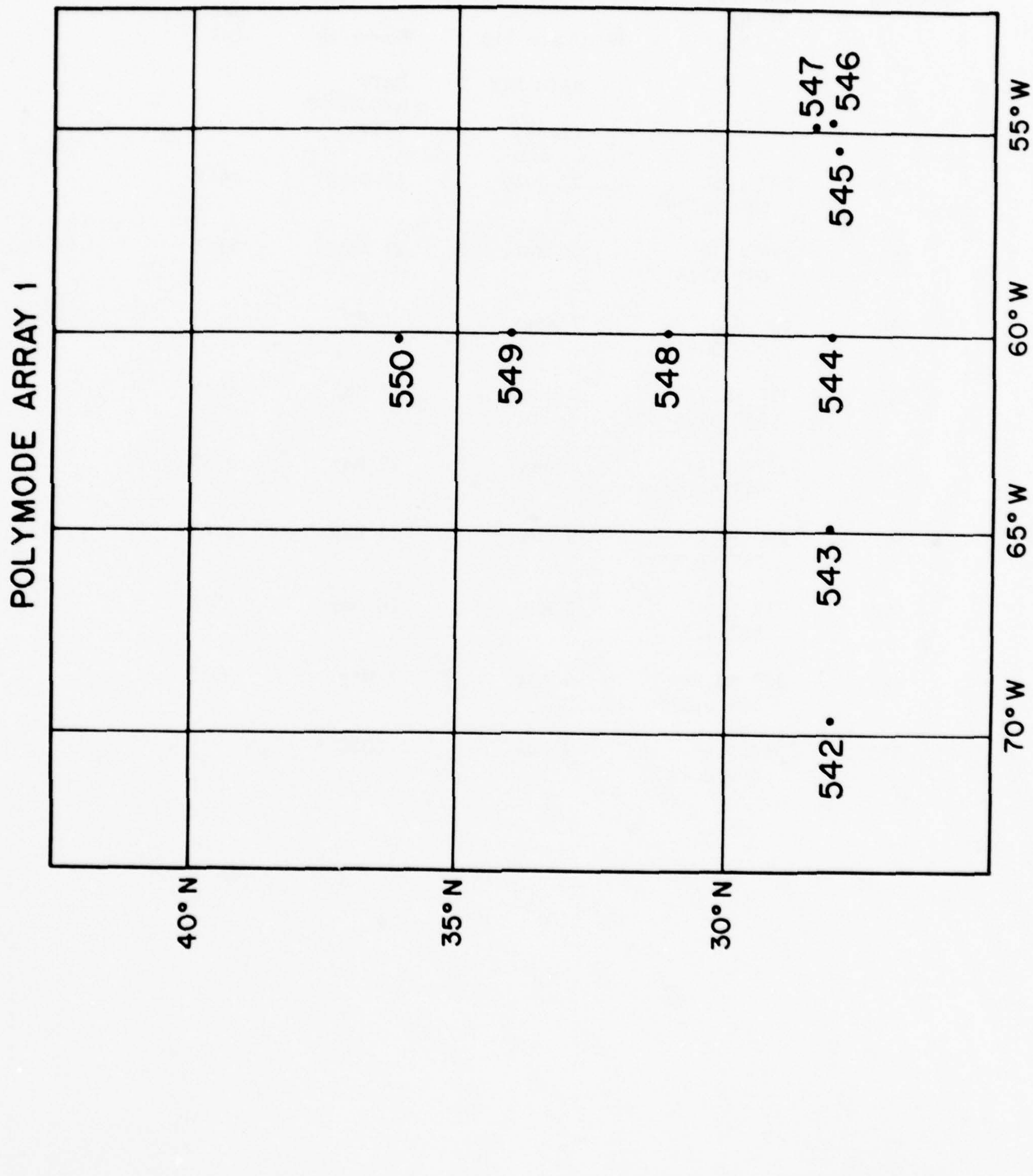
6000-8000m
8000-10000m
LAND



POLYMODE ARRAY 1
40° N
35° N
30° N
70° W
65° W
60° W
55° W
542
543
544
545
546
547
548
549
550

Table 1

Summary of Mooring Locations and Dates

Mooring #	Location (° N) (° W)	Cruise Chain 116 DATE SET (1974)	Cruise Knorr 49 DATE RECOVERED (1975)	Bottom Depth (m)
542	28° 1.4' 69° 38.95'	27 July	26 April	5462
543	27° 57.6' 64° 57.8'	30 July	27 April	5363
544	28° 0.0' 60° 5.8'	1 Aug	LOST	
545	27° 50.2' 55° 34.5'	2 Aug	12 May	6015
546	27° 53.8' 54° 53.2'	3 Aug	12 May	5773
547	28° 12.6' 54° 56.6'	3 Aug	13 May	5785
548	31° 1.5' 60° 4.3'	5 Aug	10 May	5550
549	33° 59.28' 60° 0.57'	6 Aug	1 May	4687
550	36° 2.6' 60° 2.4'	7 Aug	LOST	

Table 2

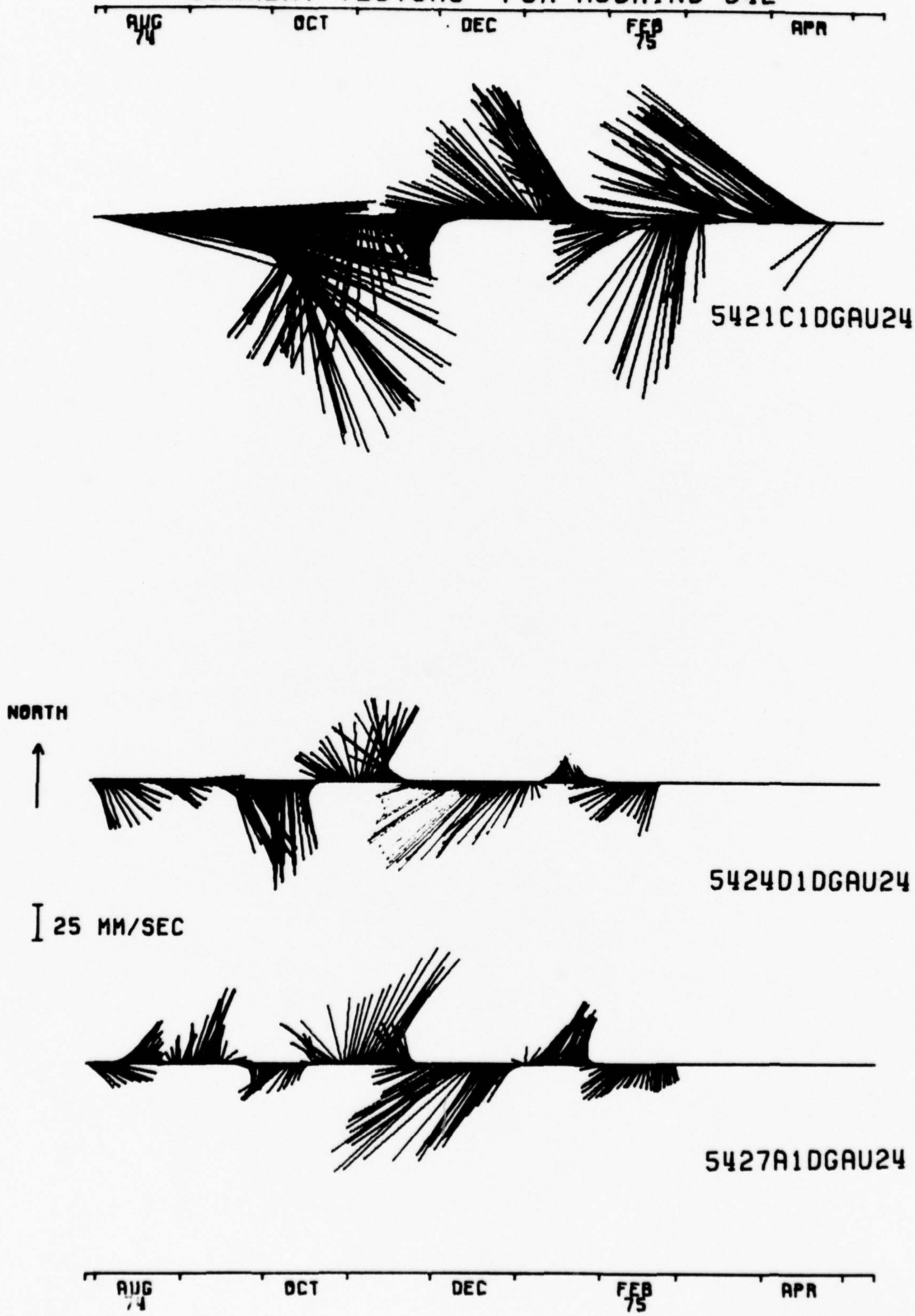
Summary of Presented Data

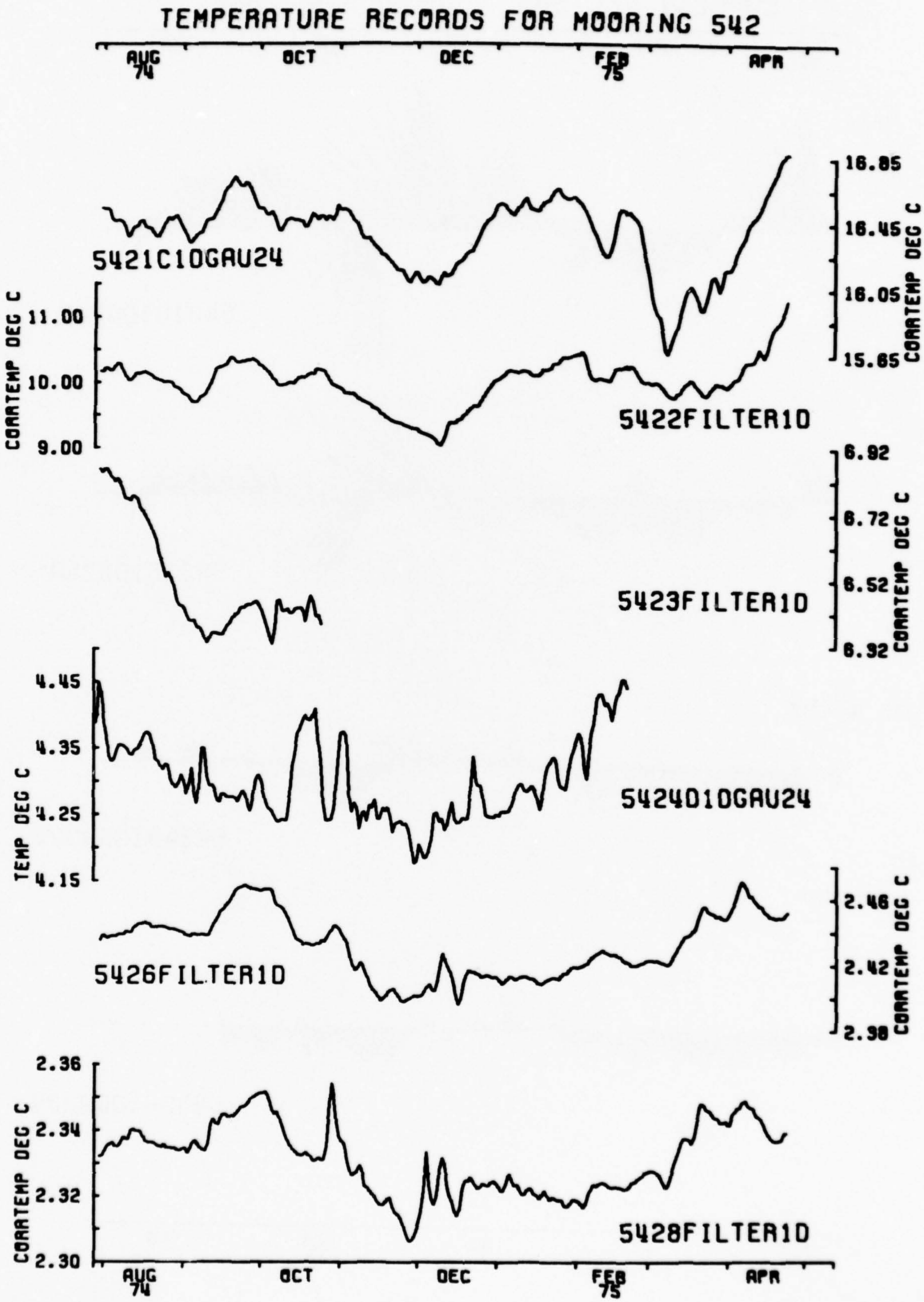
Record	Type	Depth	Variables	Duration	Dates
#	of	(corrected)			
	inst.	(m)		(days)	(1974 - 1975)
5421	DT	492	v,t	271	Jul.28 - Apr.26
5422	T/P	793	t,p	270	Jul.29 - Apr.25
5423	T/P	991	t,p	89	Jul.29 - Oct.27 ('74)
5424	850	1496	v,t	209	Jul 28 - Feb.22
5426	T/P	3497	t,p	270	Jul.29 - Apr.25
5427	850	3988	v	215	Jul.28 - Feb.28
5428	T/P	3991	t,p	270	Jul.29 - Apr.25
5431	VACM	498	v,t	270	Jul 30 - Apr.27
5432	T/P	798	t,p	268	Aug.01 - Apr.27
5433	VACM	998	v,t	270	Jul.30 - Apr.27
5434	VACM	1998	v,t	270	Jul.30 - Apr.27
5435	850	3999	v	237	Jul.30 - Mar.25
5436	T/P	4002	t	268	Aug.01 - Apr.27
5451	VACM	492	v,t	282	Aug 02 - May 12
5452	T/P	791	t,p	275	Aug.04 - May 6
5453	DT	990	v,t	282	Aug.02 - May 12
5454	VACM	1986	v,t	282	Aug.02 - May 12
5455	T/P	1989	t,p	281	Aug.04 - May 12
5456	850	3987	v	239	Aug.02 - Mar.29
5457	T/P	3990	t	281	Aug.04 - May 12
5457	T/P	3990	p	105	Aug.04 - Nov.17 ('74)

Table 2 cont.

Record #	Type of Inst.	Depth (corrected) (m)	Variables	Duration (days)	Dates (1974 - 1975)
5461	VACM	526	v,t	282	Aug.03 - May 12
5462	T/P	826	t,p	280	Aug.05 - May 12
5463	VACM	1024	v,t	282	Aug.03 - May 12
5464	T/P	1421	t,p	280	Aug.05 - May 12
5465	DT	2021	v,t	282	Aug.03 - May 12
5466	T/P	3026	t,p	280	Aug.05 - May 12
5467	850	4031	v	237	Aug.03 - Mar.28
5468	T/P	4034	t,p	280	Aug.05 - May 12
5471	VACM	496	v,t	281	Aug.04 - May 12
5473	VACM	996	v,t	282	Aug.04 - May 13
5474	VACM	1996	v,t	281	Aug.04 - May 12
5475	850	4000	v	239	Aug.03 - Mar.31
5481	VACM	517	v,t	276	Aug.06 - May 10
5482	T/P	817	t,p	276	Aug.06 - May 10
5483	VACM	1017	s,t	276	Aug.05 - May 09
5485	DT	2018	v,t	276	Aug.06 - May 10
5486	VACM	4018	v,t	215	Aug.06 - Mar.09
5491	VACM	512	v,t	266	Aug.07 - May 01
5492	T/P	812	t,p	265	Aug.08 - May 01
5493	DT	1012	v,t	266	Aug.07 - May 01
5494	850	2012	v,t	236	Aug.07 - Mar.31
5495	DT	4012	v,t	266	Aug.07 - May 01

CURRENT VECTORS FOR MOORING 542

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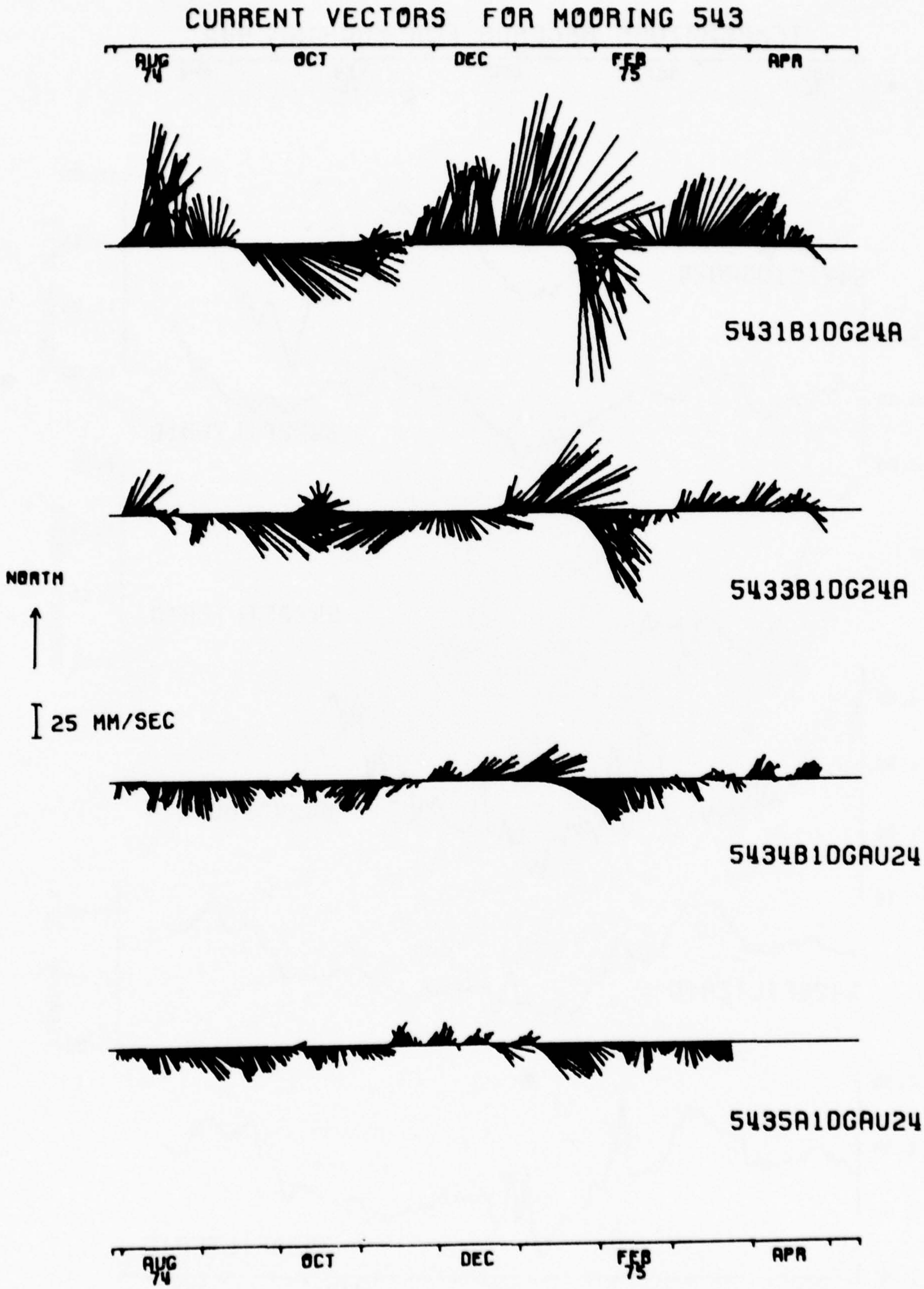
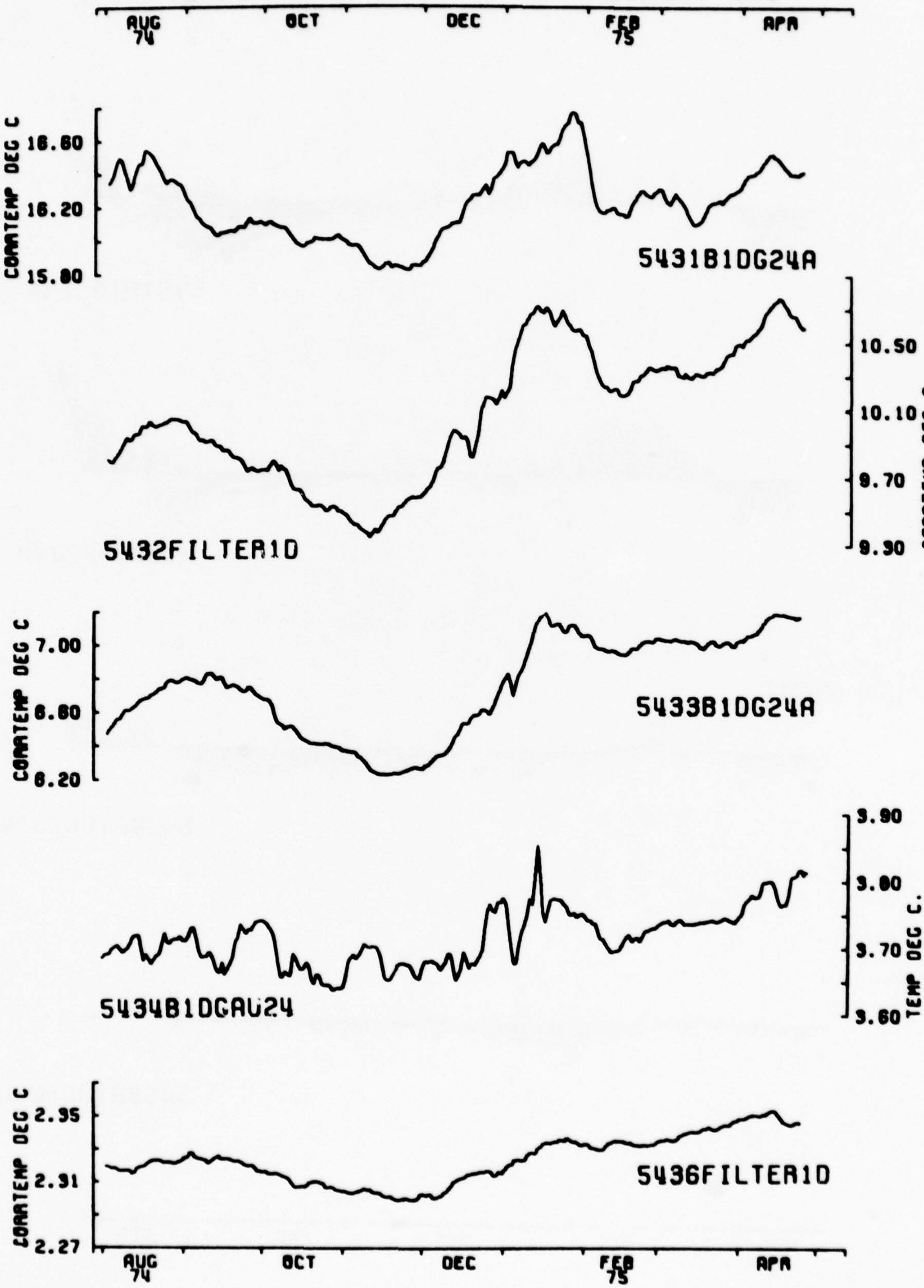
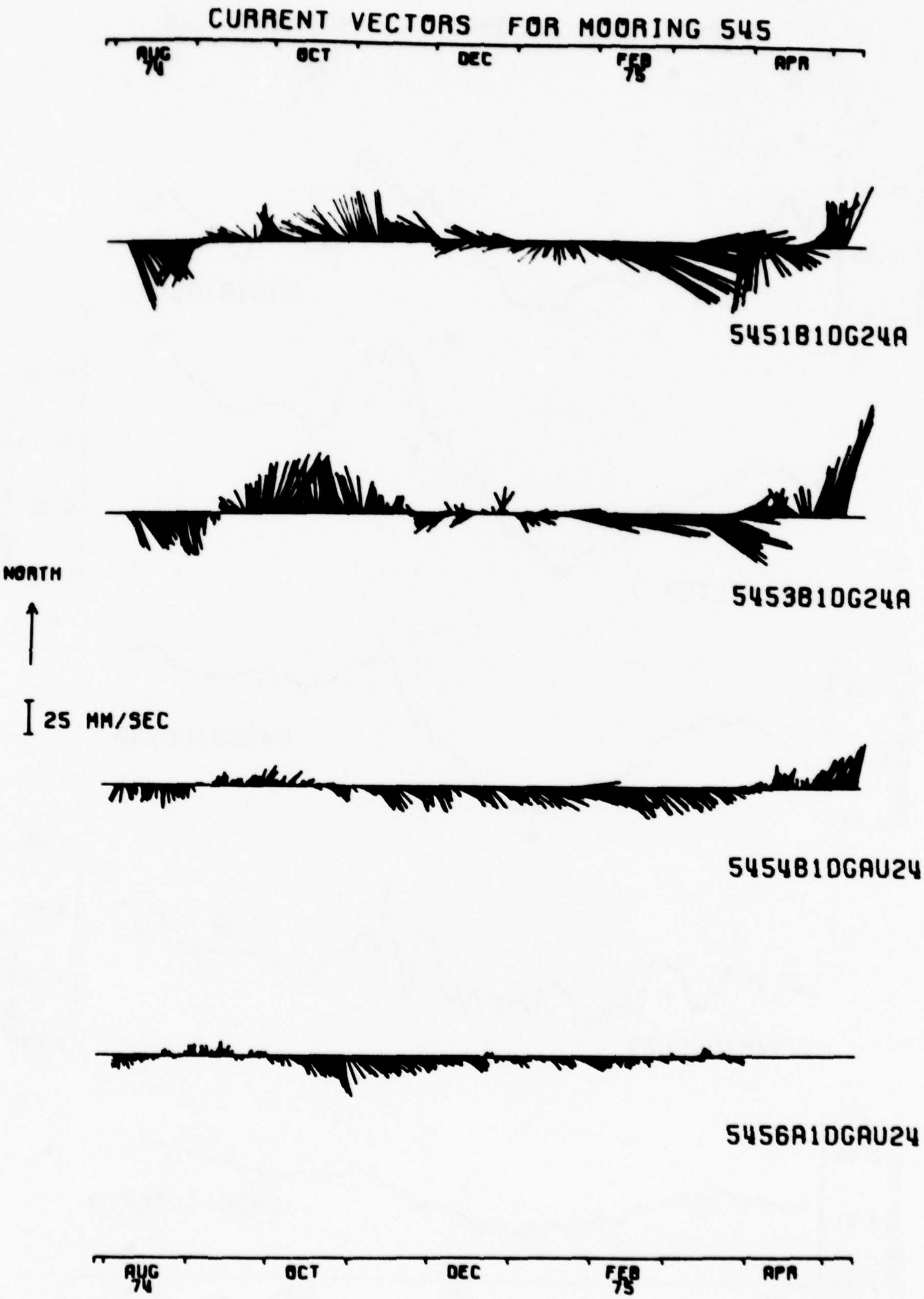
CORRTEMP DEG C
11.00
10.00
9.00
CORRTEMP DEG C
5422FILTER1D
6.92
6.72
6.52
6.32
CORRTEMP DEG C
5423FILTER1D
4.45
4.35
4.25
4.15
TEMP DEG C
5424D10GAU24
2.46
2.42
2.38
CORRTEMP DEG C
5426FILTER1D
2.36
2.34
2.32
2.30
CORRTEMP DEG C
5428FILTER1D
AUG 74
OCT
DEC
FEB 75
APR



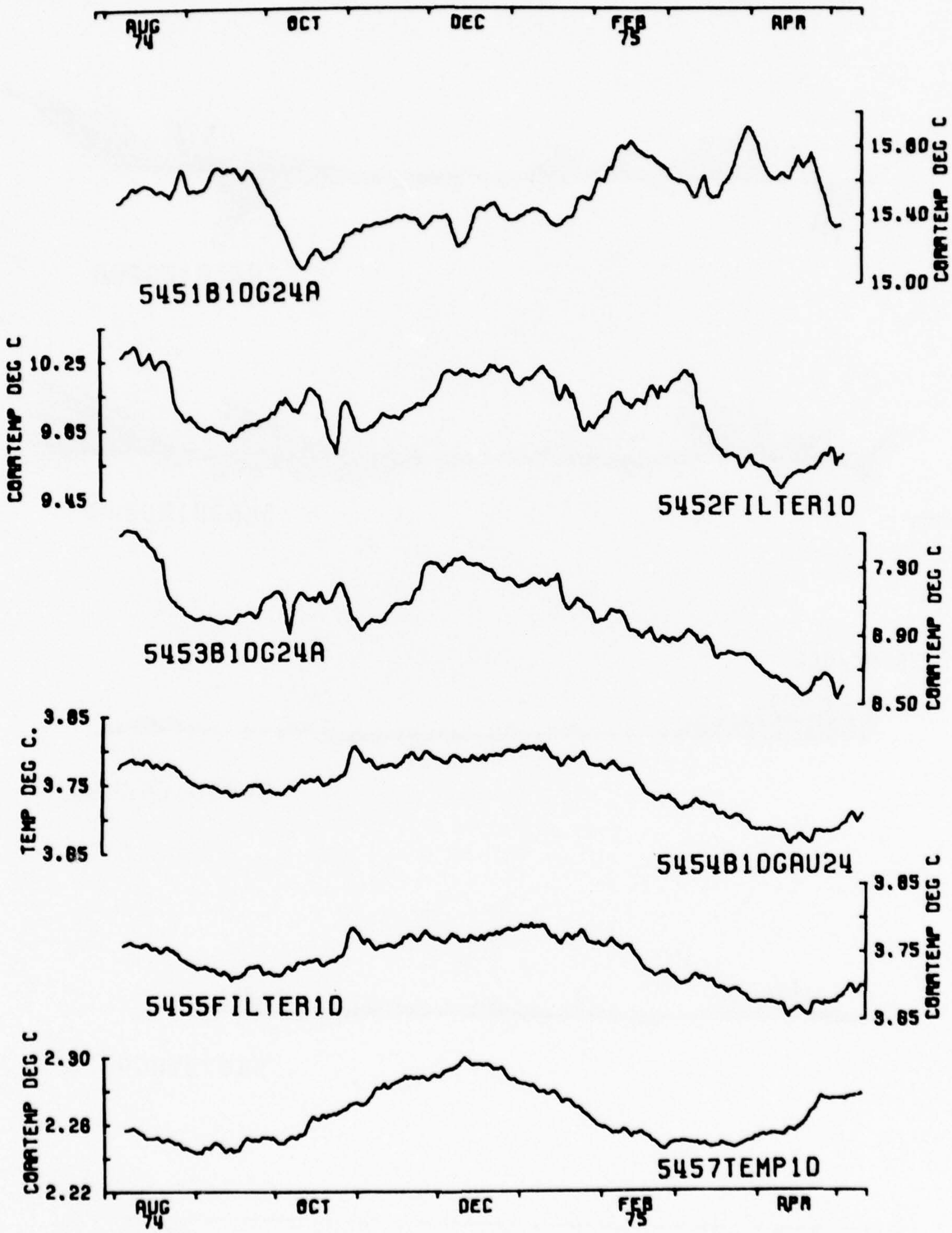
CURRENT VECTORS FOR MOORING 543
AUG 74
OCT
DEC
FEB 75
APR
5431B1DG24A
5433B1DG24A
NORTH
25 MM/SEC
5434B1DGAU24
5435A1DGAU24
AUG 74
OCT
DEC
FEB 75
APR

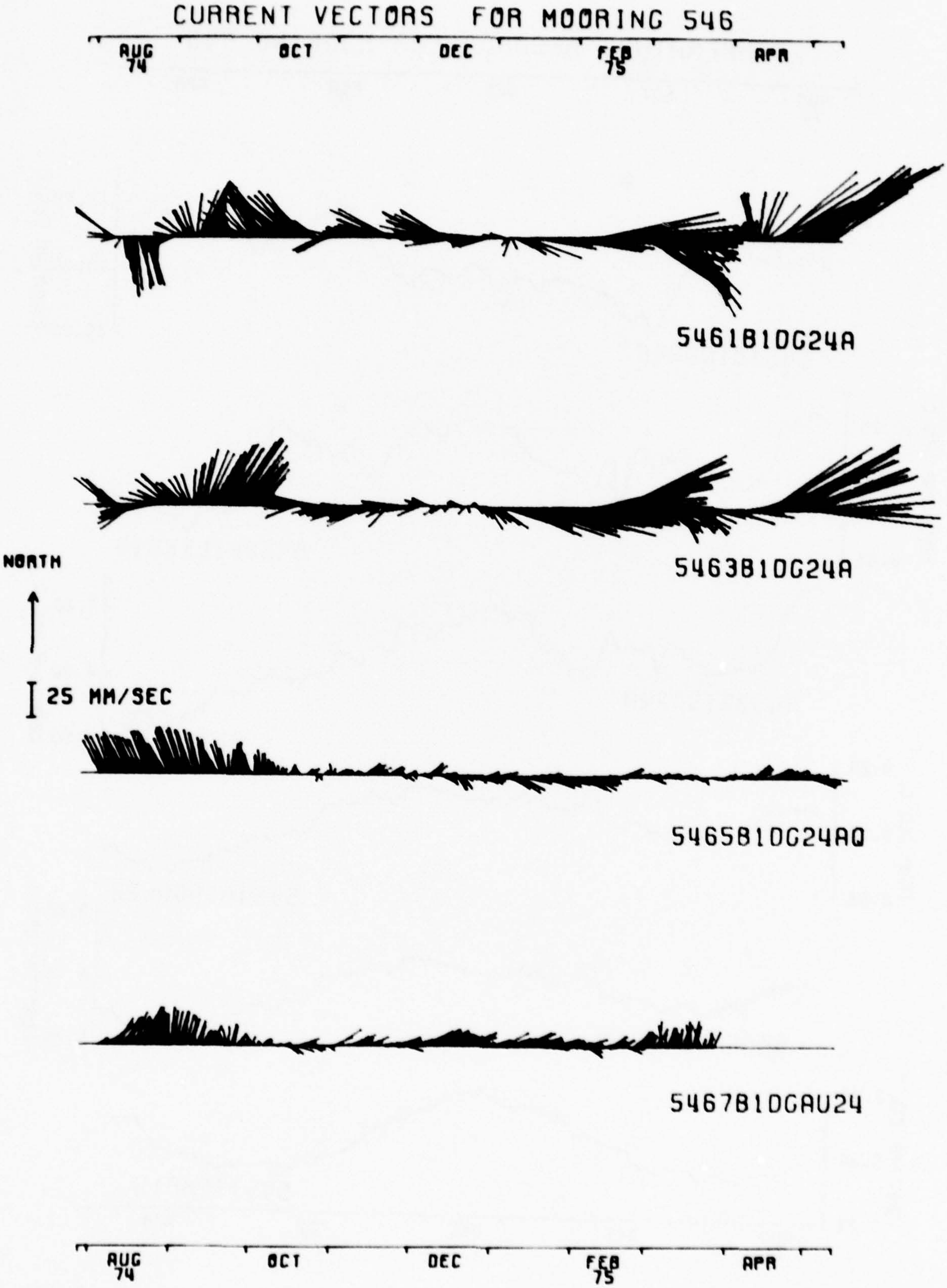
TEMPERATURE RECORDS FOR MOORING 543

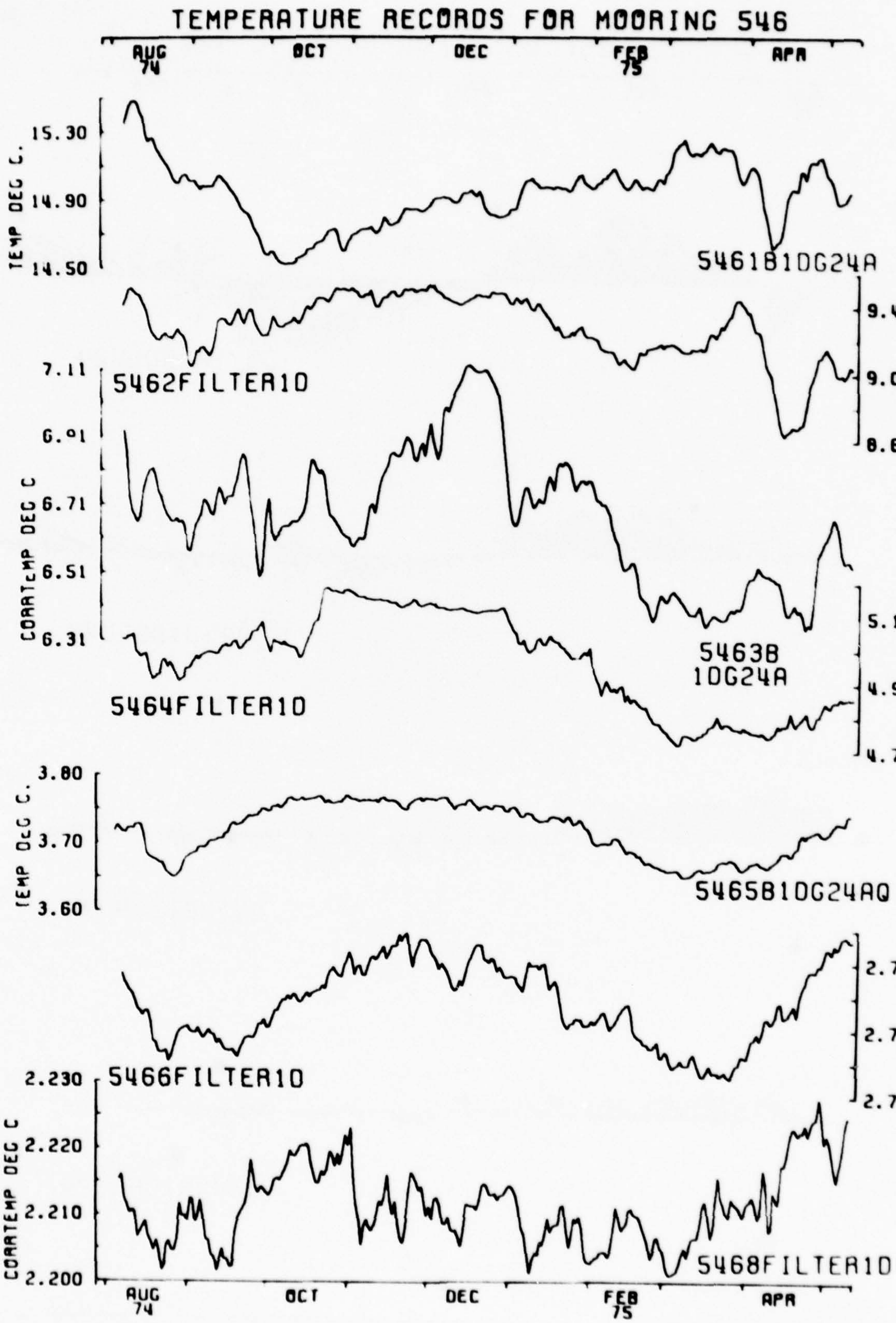



CURRENT VECTORS FOR MOORING 545
AUG 74
OCT
DEC
FEB 75
APR
5451B1DG24A
5453B1DG24A
NORTH
25 MM/SEC
5454B1DGAU24
5456A1DGAU24

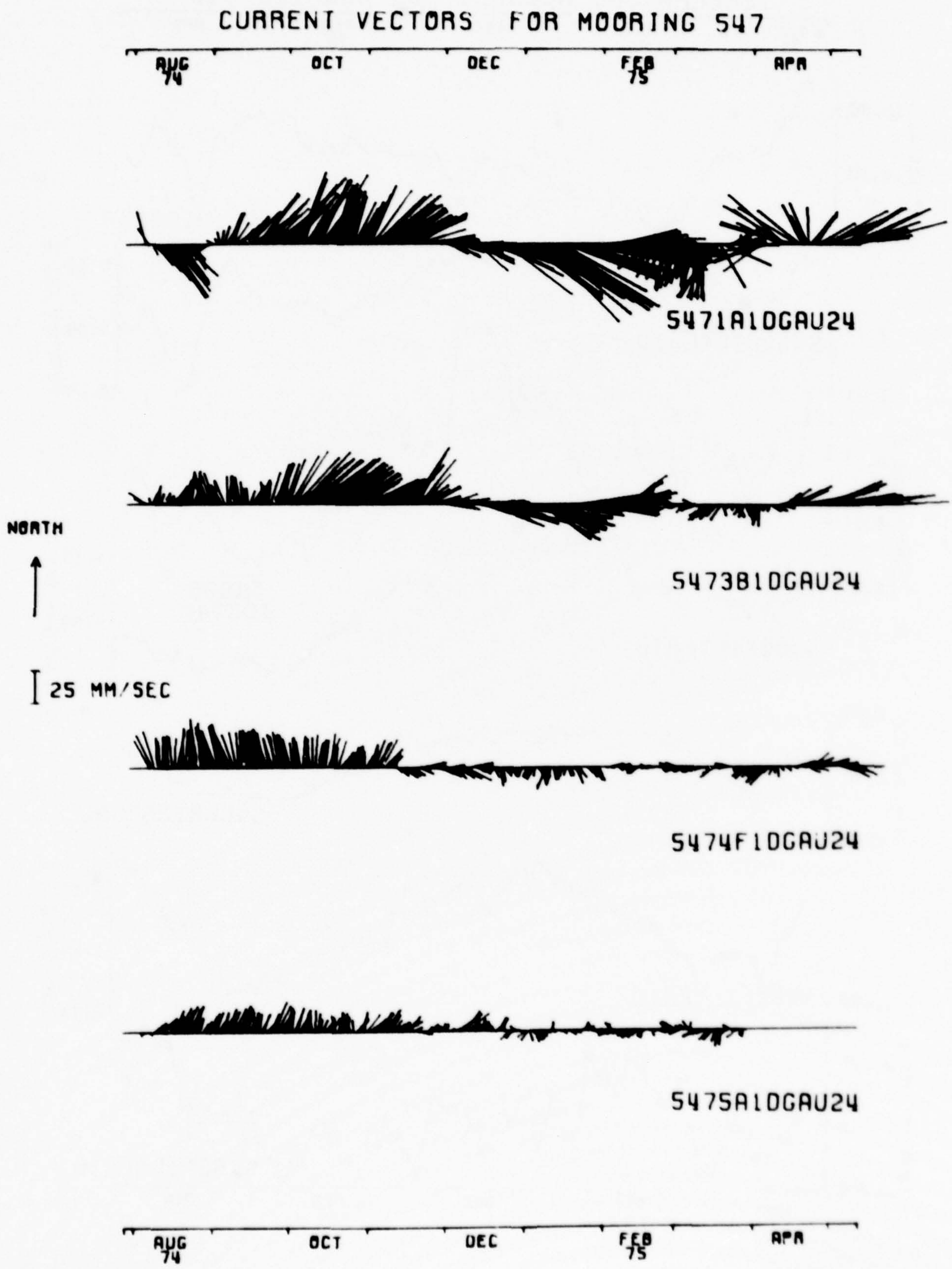
TEMPERATURE RECORDS FOR MOORING 545



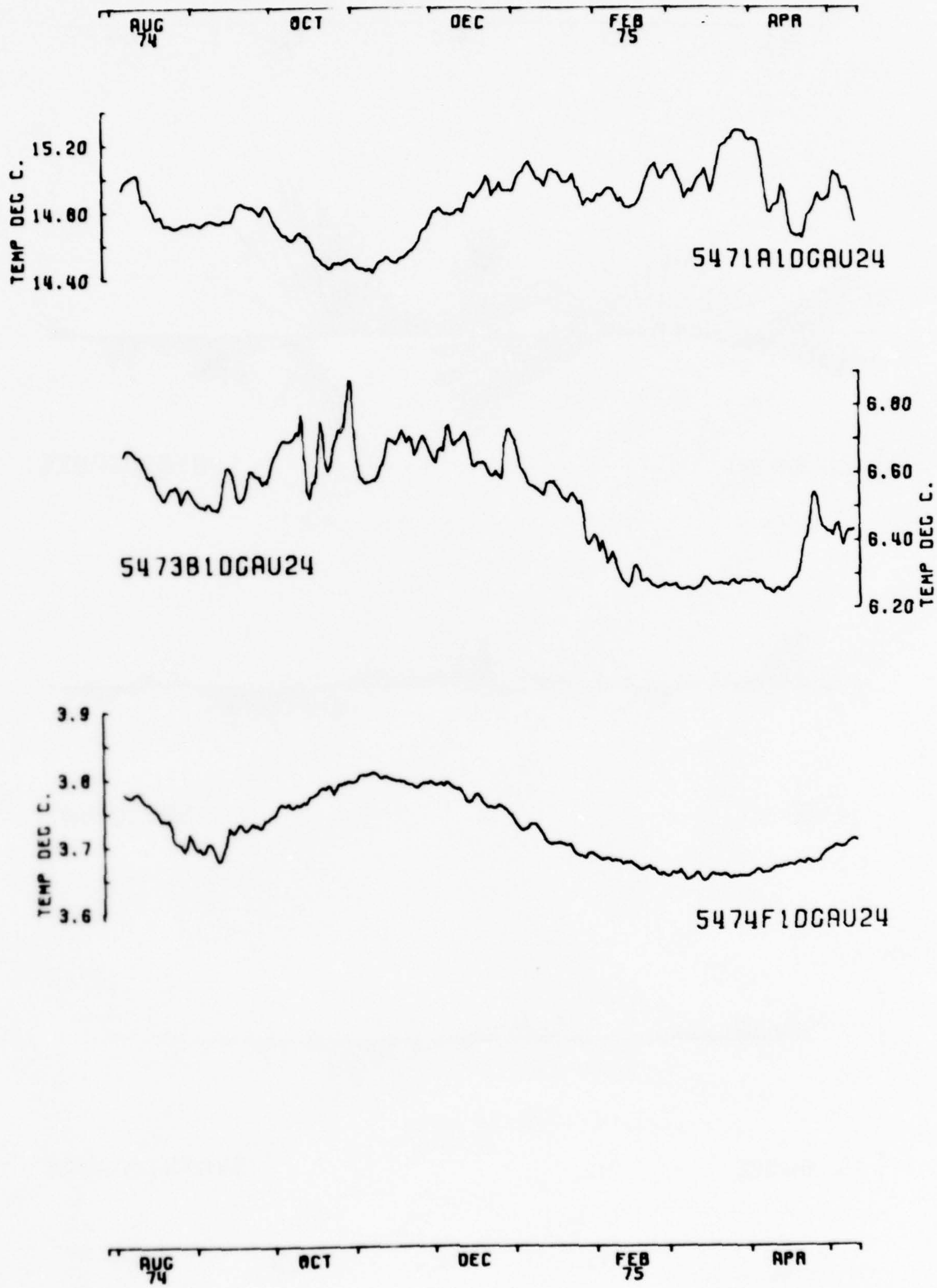

CURRENT VECTORS FOR MOORING 546
AUG 74
OCT
DEC
FEB 75
APR
5461B1DG24A
5463B1DG24A
NORTH
25 MM/SEC
5465B1DG24AQ
5467B1DGAU24
AUG 74
OCT
DEC
FEB 75
APR



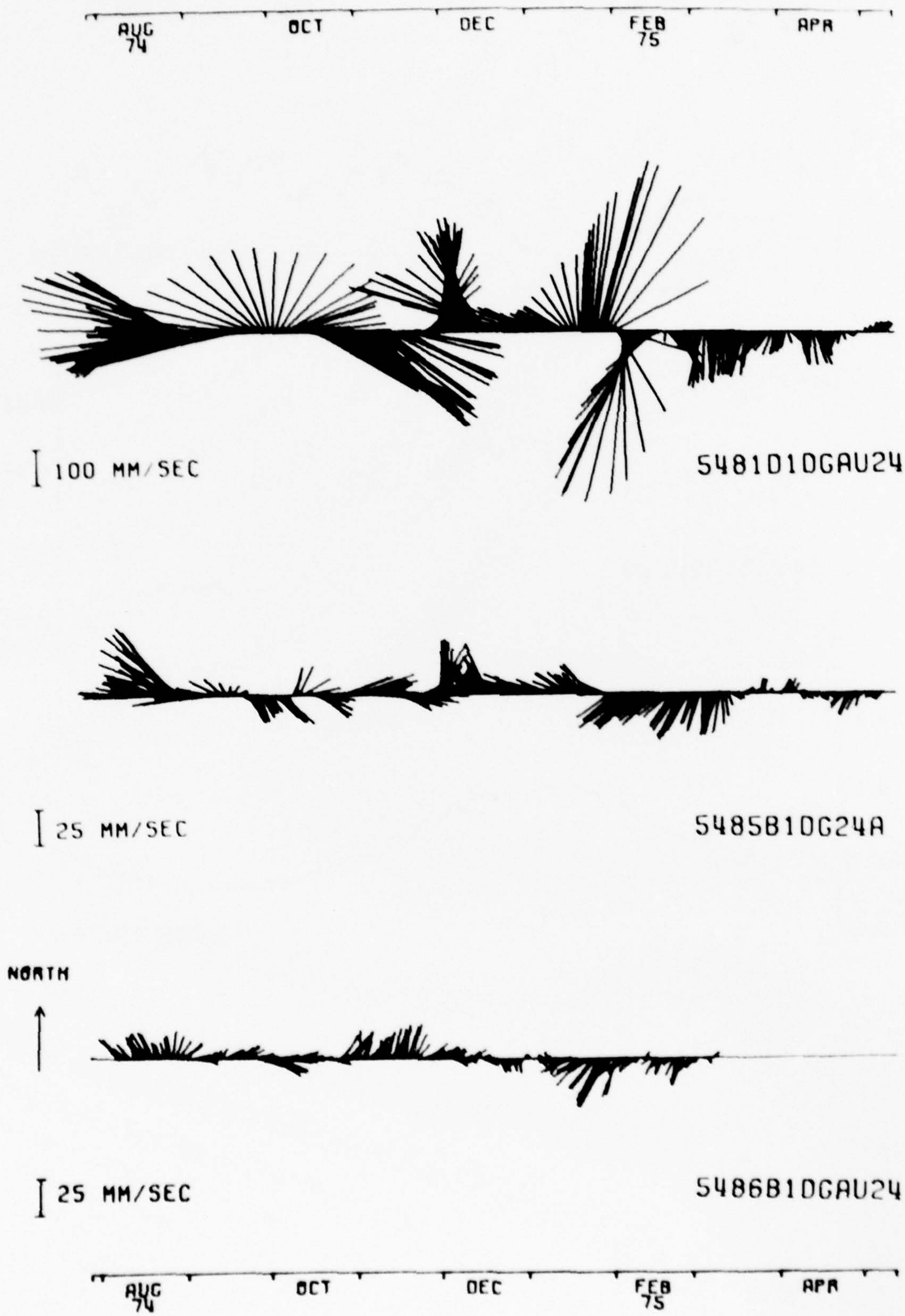
TEMPERATURE RECORDS FOR MOORING 546
AUG 74
OCT
DEC
FEB 75
APR
15.30
14.90
14.50
TEMP DEG C.
5461B1DG24A
9.40
9.00
8.60
CORRTEMP DEG C
5462FILTER1D
7.11
6.91
6.71
6.51
6.31
CORRTEMP DEG C
5463B 1DG24A
5.10
4.90
4.70
CORRTEMP DEG C
5464FILTER1D
3.80
3.70
3.60
TEMP DEG C.
5465B1DG24AQ
2.78
2.76
2.74
CORRTEMP DEG C
5466FILTER1D
2.230
2.220
2.210
2.200
CORRTEMP DEG C
5468FILTER1D
AUG 74
OCT
DEC
FEB 75
APR

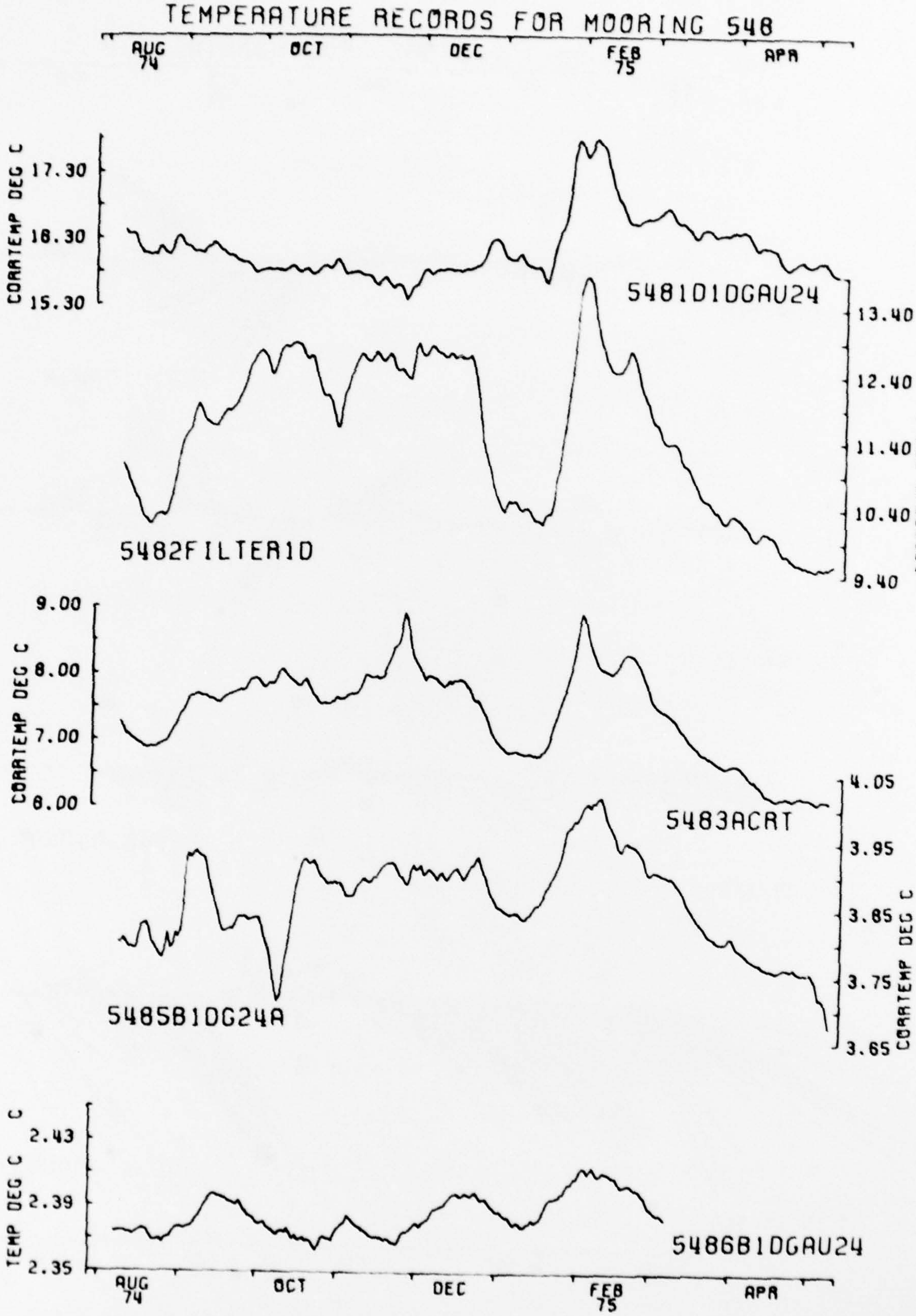

CURRENT VECTORS FOR MOORING 547
AUG 74
OCT
DEC
FEB 75
APR
5471A1DGAU24
NORTH
5473B1DGAU24
25 MM/SEC
5474F1DGAU24
5475A1DGAU24
AUG 74
OCT
DEC
FEB 75
APR

TEMPERATURE RECORDS FOR MOORING 547

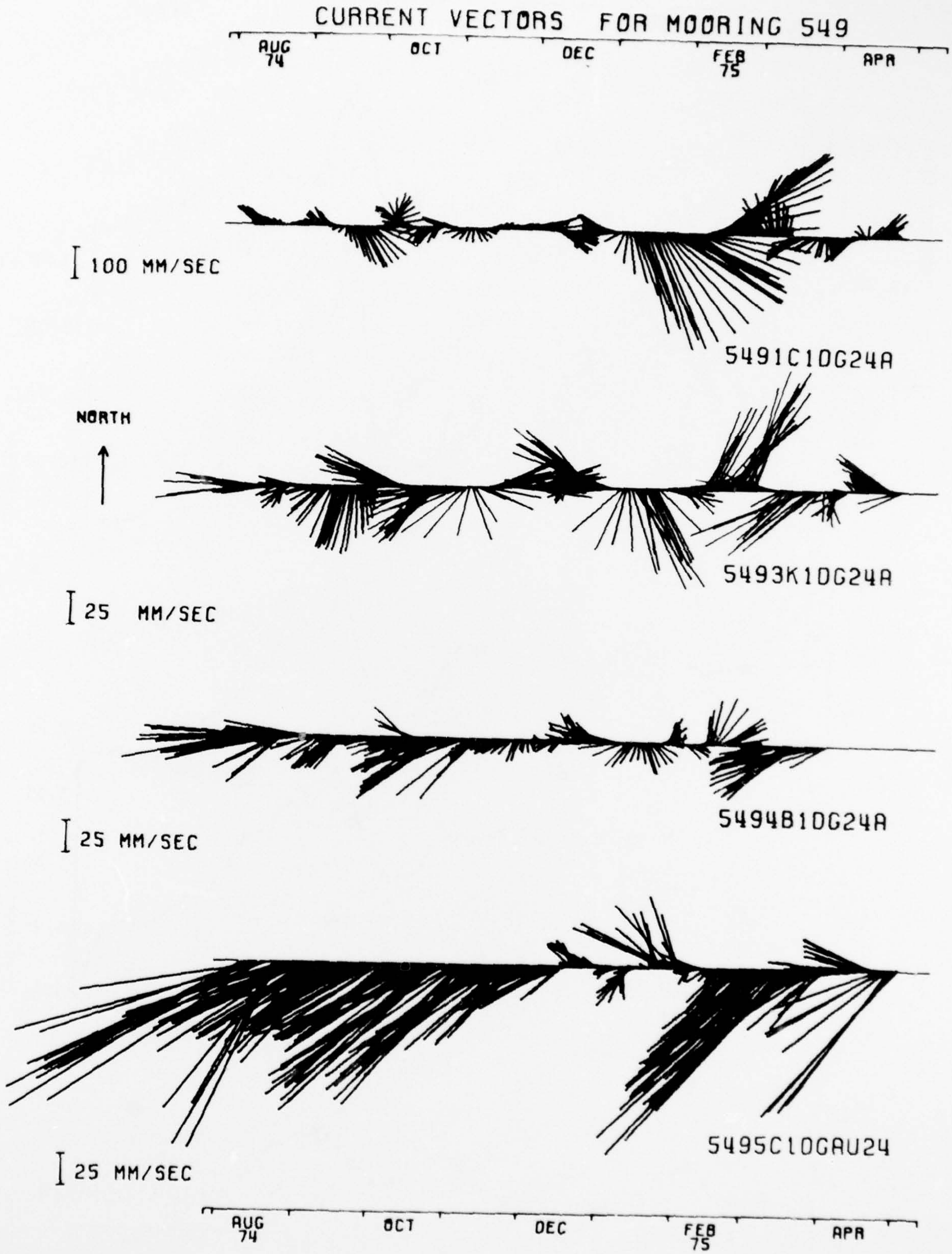


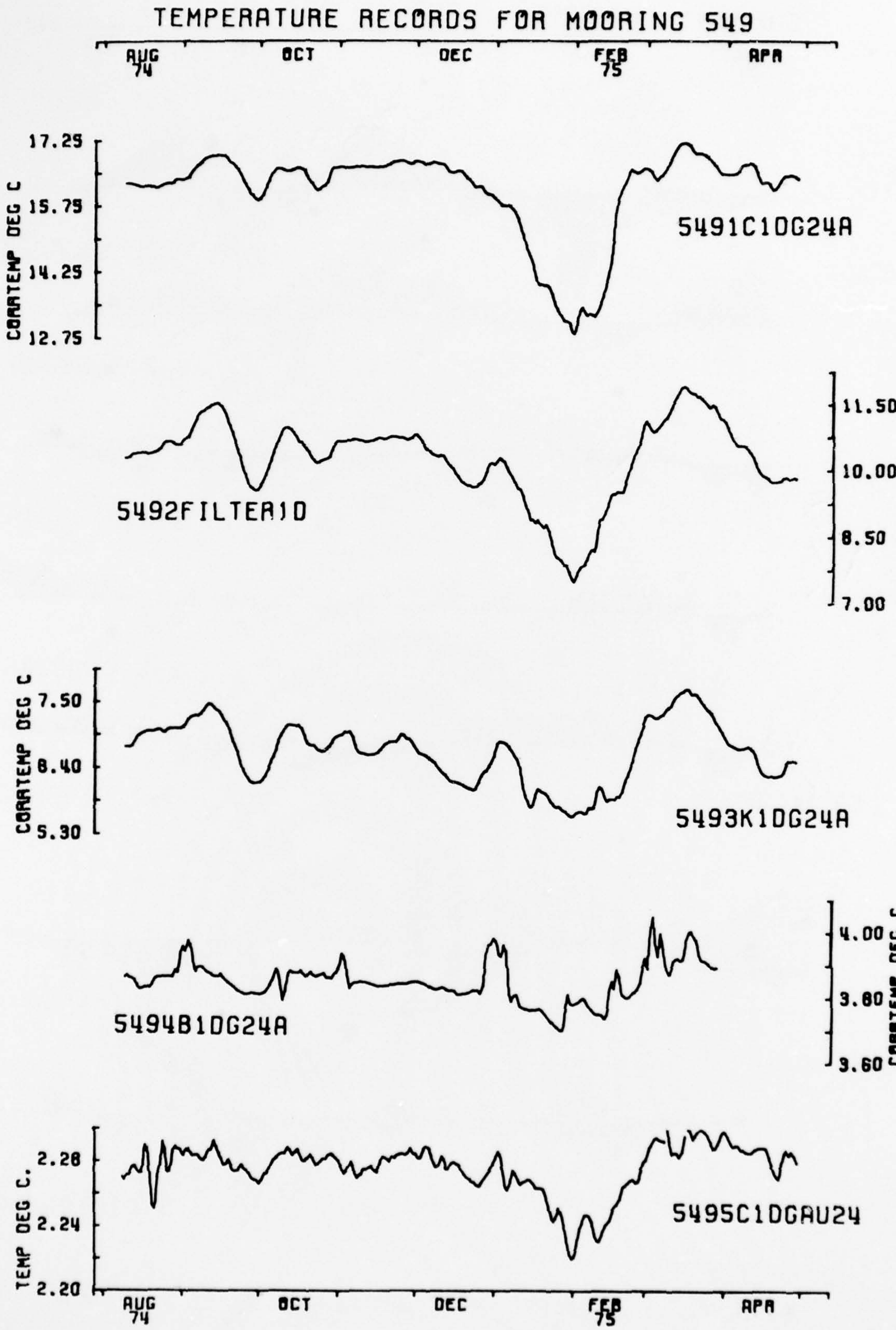
CURRENT VECTORS FOR MOORING 548

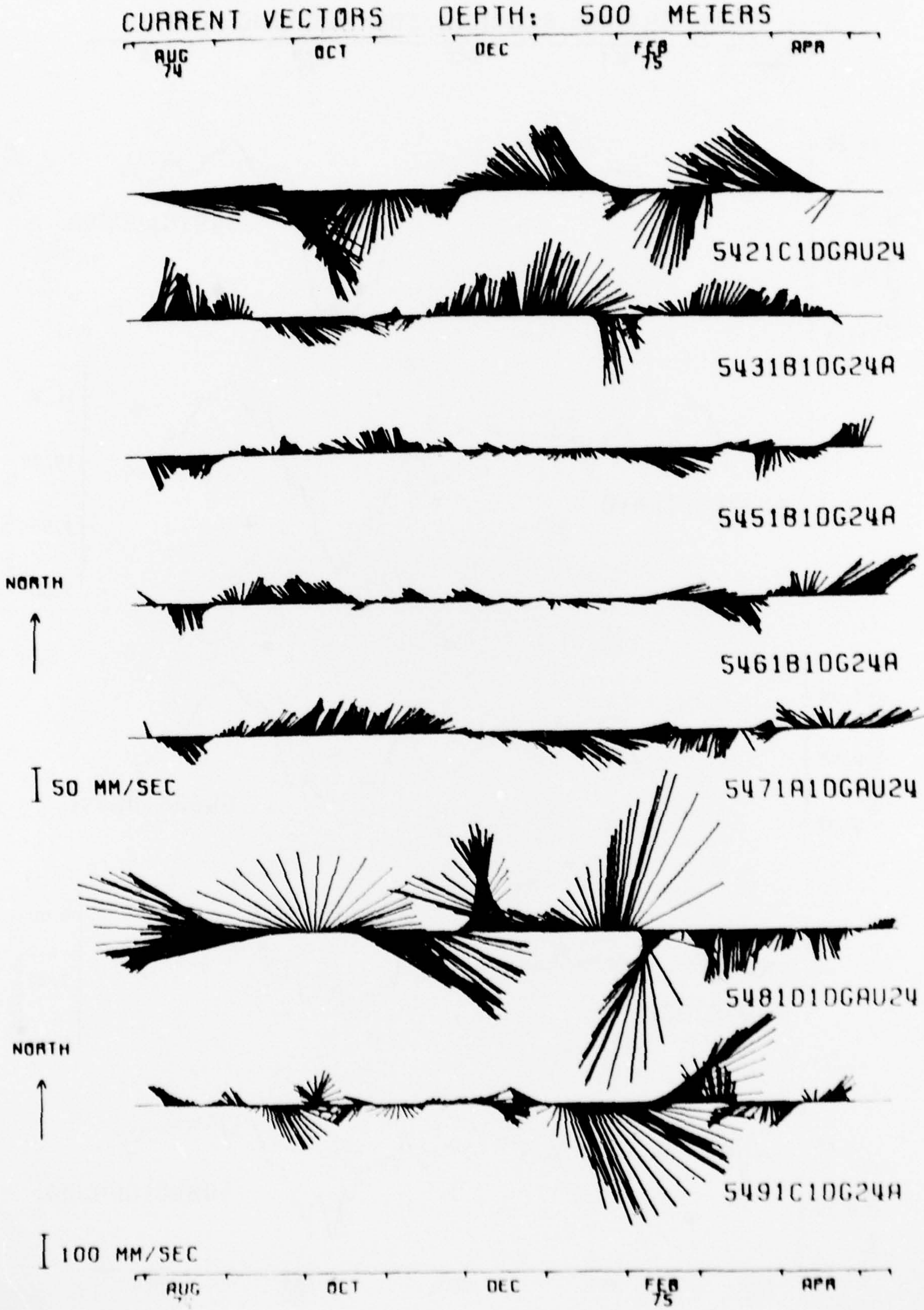




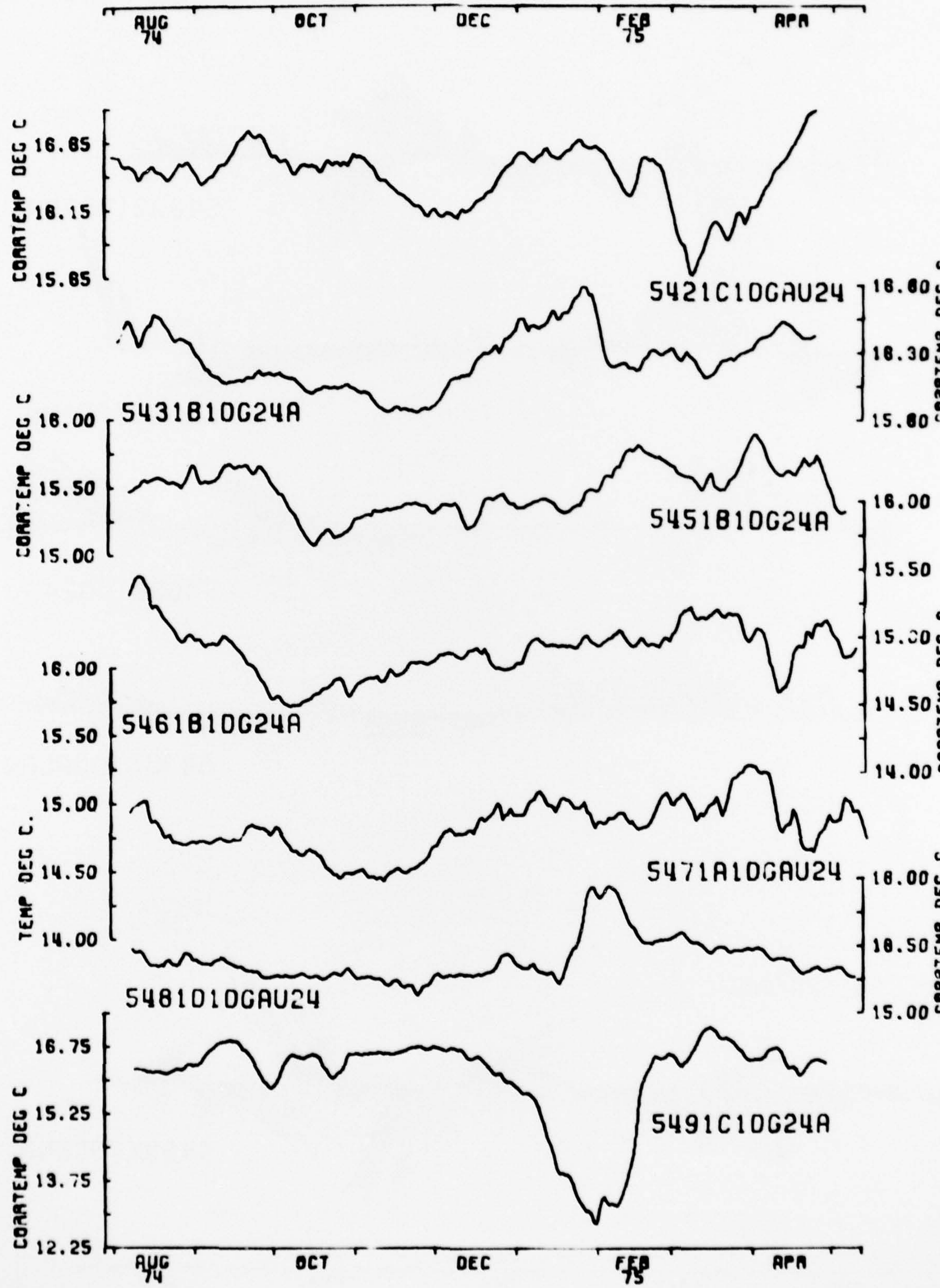
TEMPERATURE RECORDS FOR MOORING 548
AUG 74
OCT
DEC
FEB 75
APR
CORRTEMP DEG C
17.30
16.30
15.30
5481D1DGAU24
13.40
12.40
11.40
10.40
9.40
CORRTEMP DEG C
5482FILTER1D
9.00
8.00
7.00
6.00
CORRTEMP DEG C
5483ACRT
4.05
3.95
3.85
3.75
3.65
CORRTEMP DEG C
5485B1DG24A
TEMP DEG C
2.43
2.39
2.35
5486B1DGAU24
AUG 74
OCT
DEC
FEB 75
APR

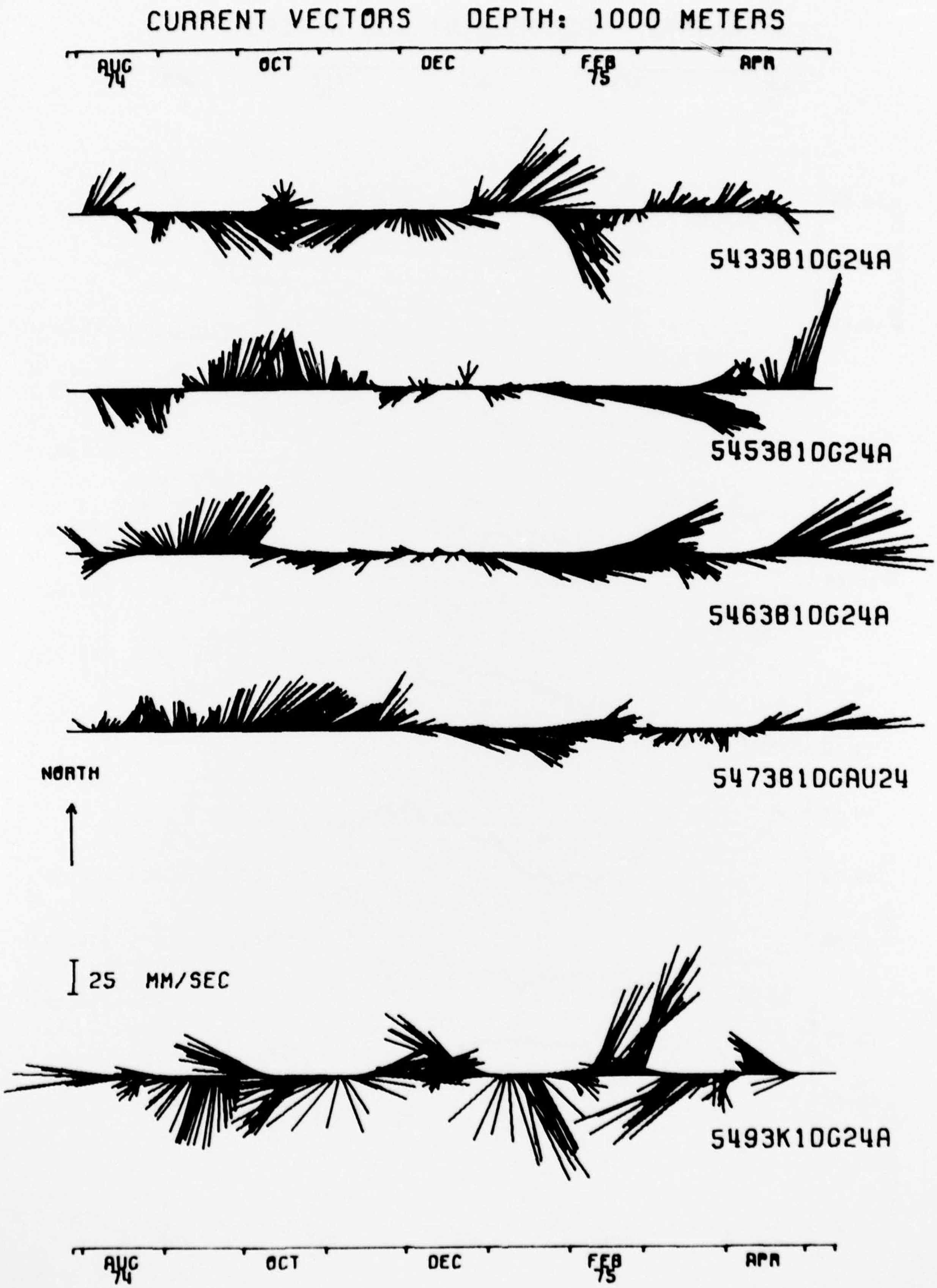

CURRENT VECTORS FOR MOORING 549
AUG 74
OCT
DEC
FEB 75
APR
100 MM/SEC
5491C10G24A
NORTH
5493K10G24A
25 MM/SEC
5494B10G24A
25 MM/SEC
5495C10GAU24
25 MM/SEC
AUG 74
OCT
DEC
FEB 75
APR

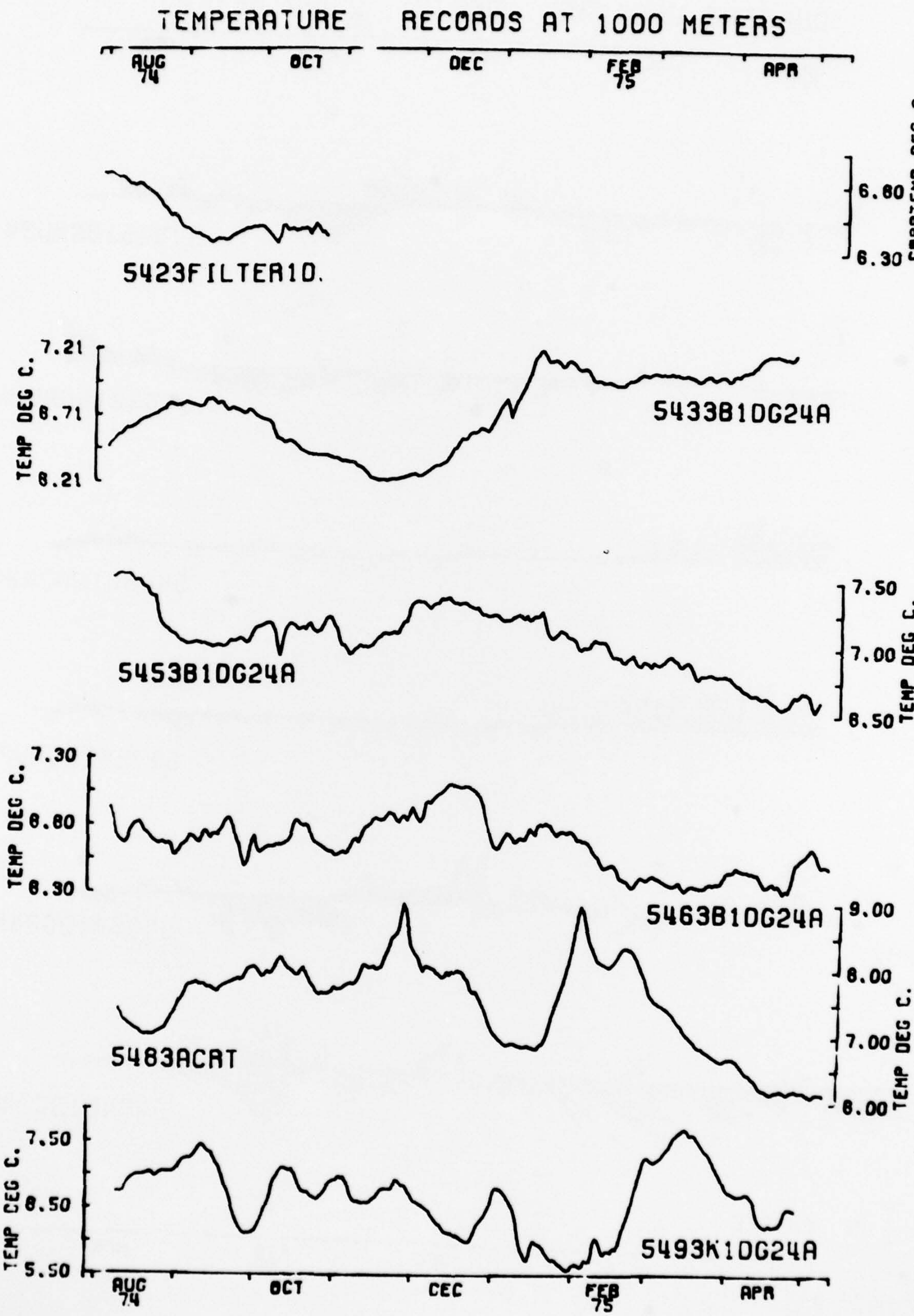

TEMPERATURE RECORDS FOR MOORING 549
AUG 74
OCT
DEC
FEB 75
APR
17.25
15.75
14.25
12.75
CORRTEMP DEG C
5491C1DG24A
11.50
10.00
8.50
7.00
CORRTEMP DEG C
5492FILTER1D
7.50
6.40
5.30
CORRTEMP DEG C
5493K1DG24A
4.00
3.80
3.60
CORRTEMP DEG C
5494B1DG24A
2.28
2.24
2.20
TEMP DEG C.
5495C1DGAU24
AUG 74
OCT
DEC
FEB 75
APR

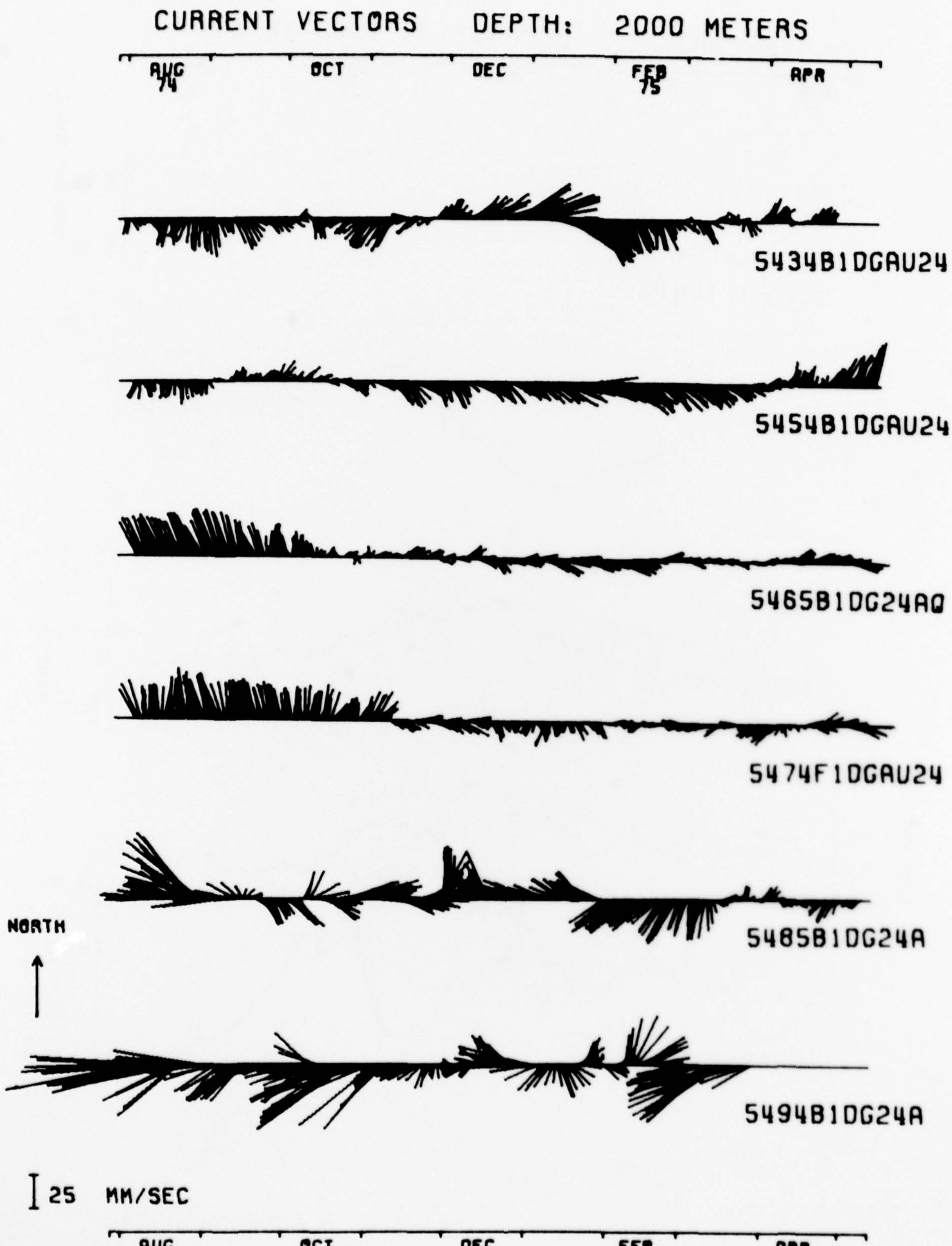

CURRENT VECTORS DEPTH: 500 METERS
AUG 74
OCT
DEC
FEB 75
APR
5421C1DGAU24
5431B1DG24A
5451B1DG24A
NORTH
5461B1DG24A
50 MM/SEC
5471A1DGAU24
5481D1DGAU24
NORTH
5491C1DG24A
100 MM/SEC
AUG
OCT
DEC
FEB 75
APR

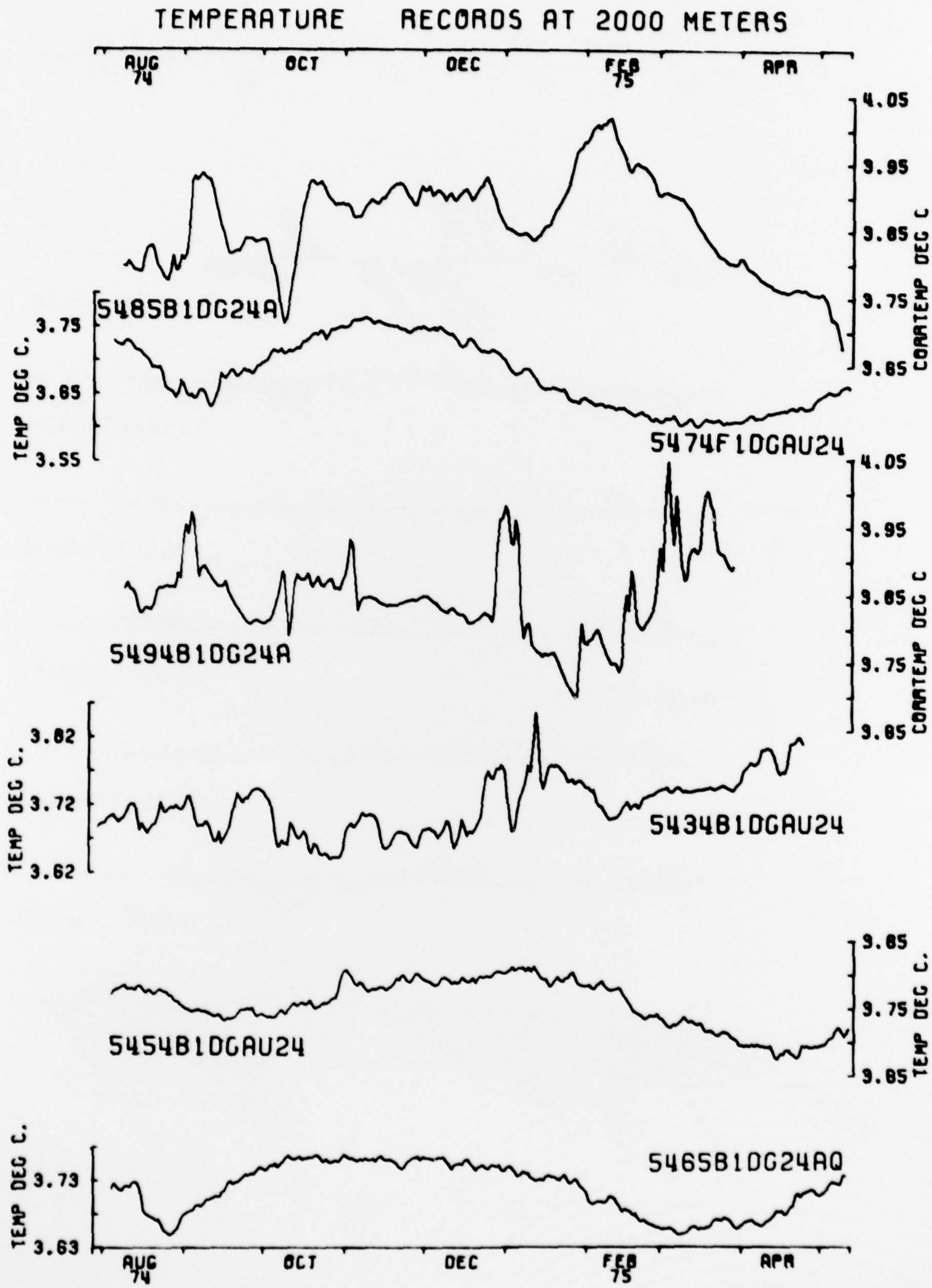
TEMPERATURE RECORDS AT 500 METERS

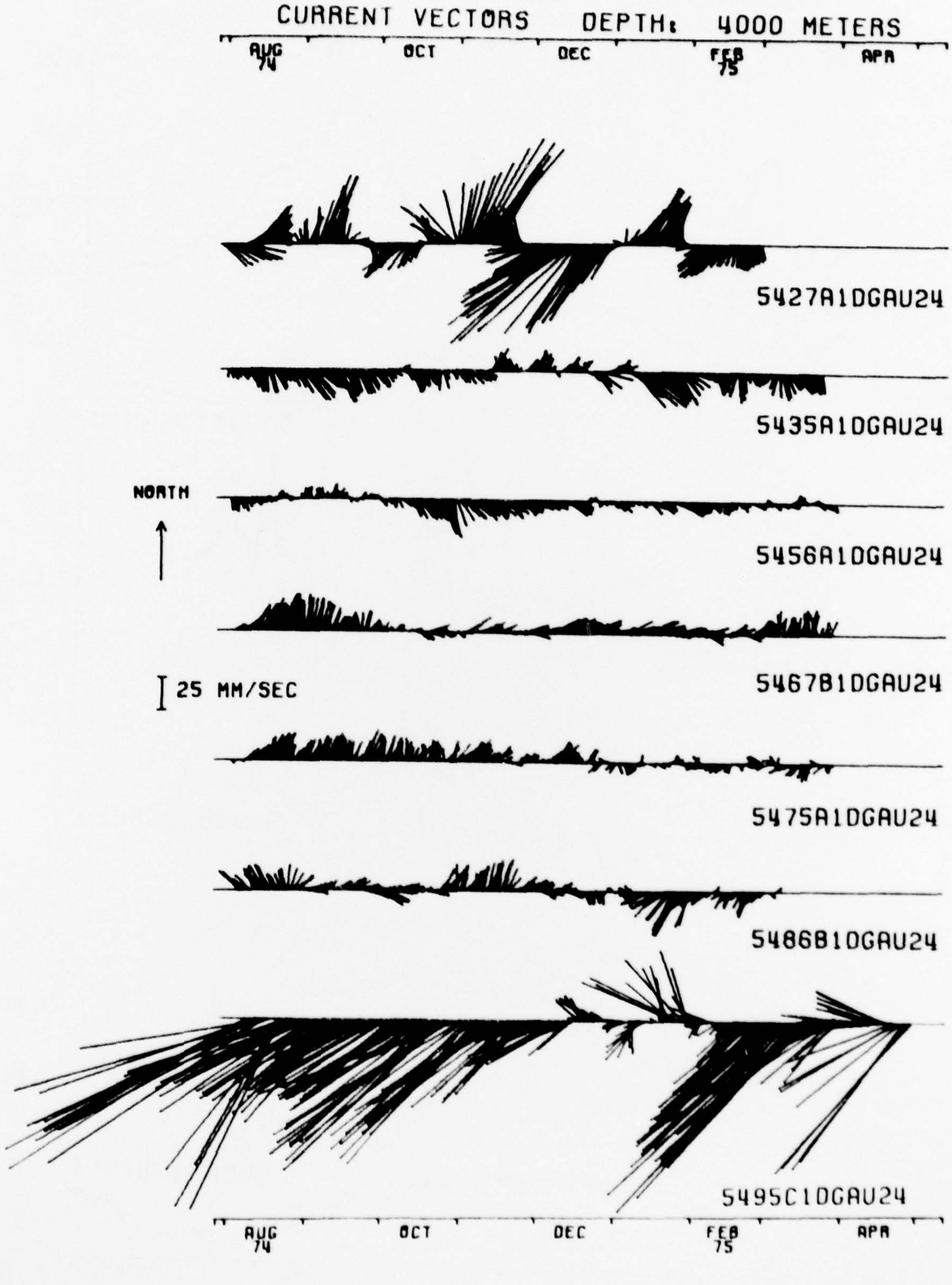


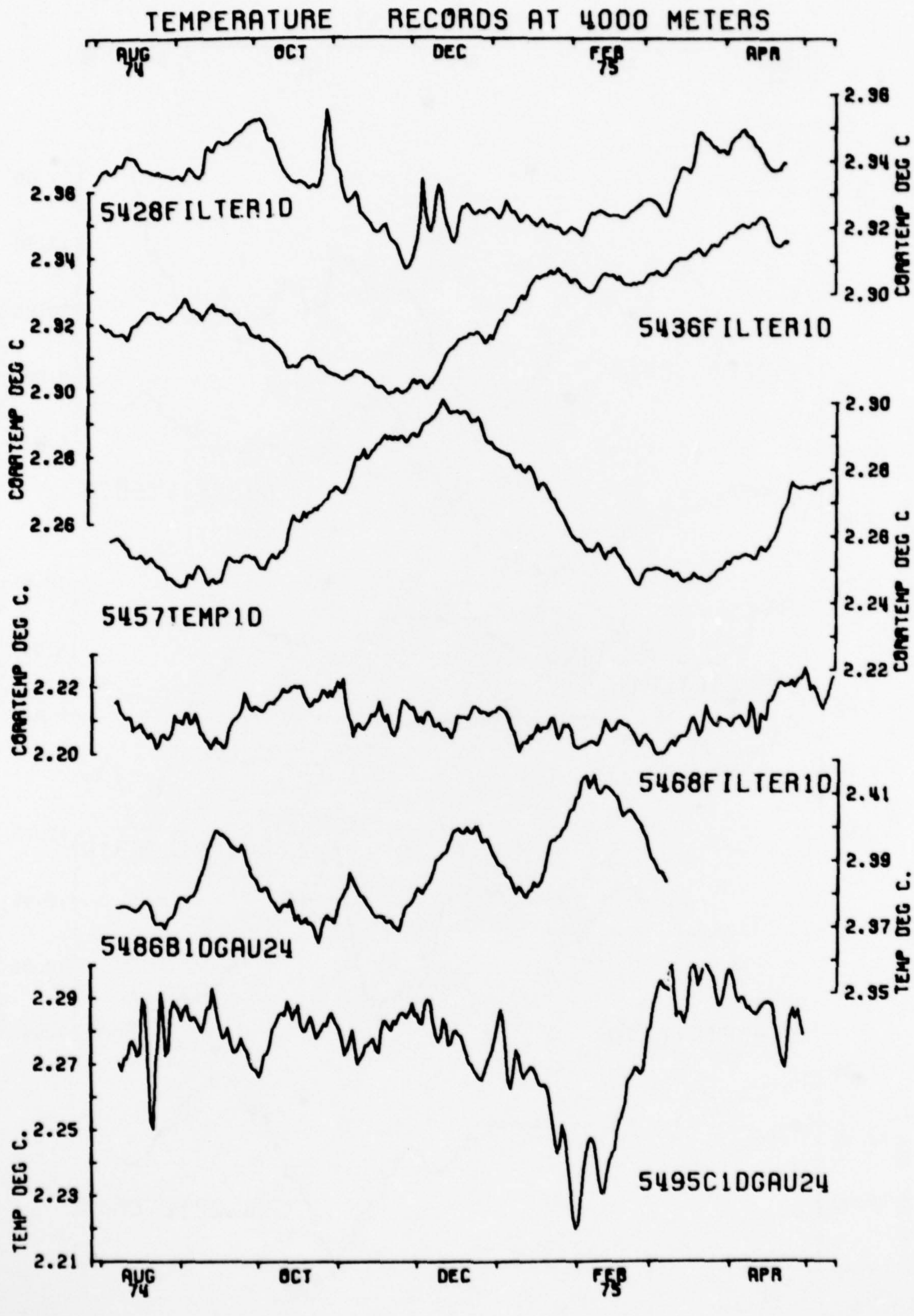

CURRENT VECTORS   DEPTH: 1000 METERS
AUG 74
OCT
DEC
FEB 75
APR
5433B10G24A
5453B10G24A
5463B10G24A
5473B10GAU24
NORTH
25 MM/SEC
5493K10G24A
AUG 74
OCT
DEC
FEB 75
APR

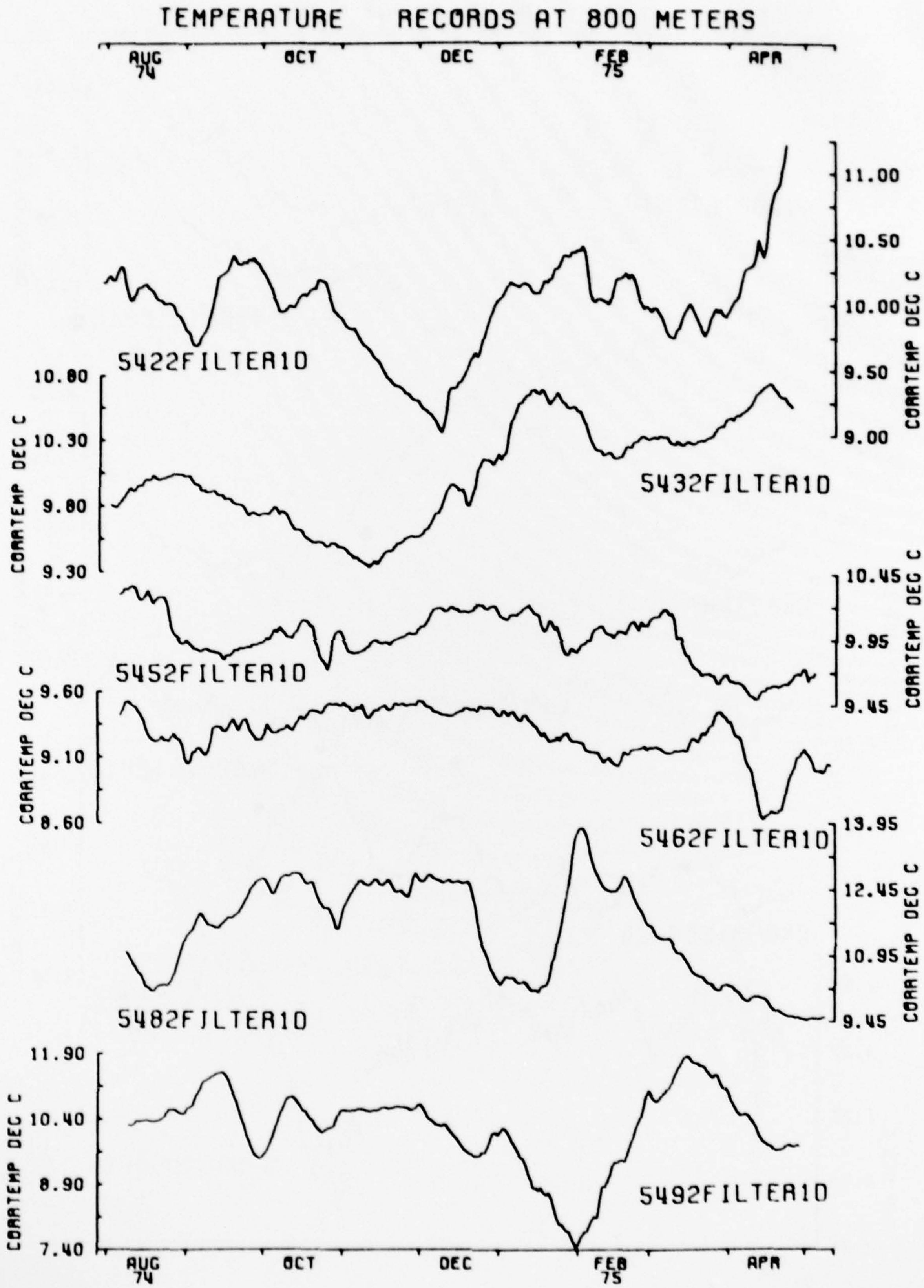

TEMPERATURE RECORDS AT 1000 METERS
AUG 74
OCT
DEC
FEB 75
APR
CORRTEMP DEG C
6.80
6.30
5423FILTER1D.
TEMP DEG C.
7.21
6.71
6.21
5433B1DG24A
7.50
7.00
6.50
TEMP DEG C.
5453B1DG24A
TEMP DEG C.
7.30
6.80
6.30
5463B1DG24A
9.00
8.00
7.00
6.00
TEMP DEG C.
5483ACRT
TEMP CEG C.
7.50
6.50
5.50
5493K1DG24A
AUG 74
OCT
CEC
FEB 75
APR


CURRENT VECTORS DEPTH: 2000 METERS
AUG 74
OCT
DEC
FEB 75
APR
5434B1DGAU24
5454B1DGAU24
5465B1DG24AQ
5474F1DGAU24
5485B1DG24A
NORTH
5494B1DG24A
25 MM/SEC
AUG 74
OCT
DEC
FEB 75
APR


TEMPERATURE RECORDS AT 2000 METERS
AUG 74
OCT
DEC
FEB 75
APR
5485B1DG24A
5474F1DGAU24
5494B1DG24A
5434B1DGAU24
5454B1DGAU24
5465B1DG24AQ
TEMP DEG C.
CORRTEMP DEG C
3.75
3.65
3.55
3.82
3.72
3.62
3.73
3.63
4.05
3.95
3.85


CURRENT VECTORS DEPTH: 4000 METERS
AUG 74
OCT
DEC
FEB 75
APR
5427A1DGAU24
5435A1DGAU24
NORTH
5456A1DGAU24
5467B1DGAU24
25 MM/SEC
5475A1DGAU24
5486B1DGAU24
5495C1DGAU24
AUG 74
OCT
DEC
FEB 75
APR


TEMPERATURE RECORDS AT 4000 METERS
AUG 74
OCT
DEC
FEB 75
APR
5428FILTER1D
5436FILTER1D
5457TEMP1D
5468FILTER1D
5486B1DGAU24
5495C1DGAU24
CORRTEMP DEG C
CORRTEMP DEG C.
TEMP DEG C.
2.96
2.94
2.92
2.90
2.28
2.26
2.24
2.22
2.20
2.41
2.99
2.97
2.95
2.29
2.27
2.25
2.23
2.21


TEMPERATURE RECORDS AT 800 METERS
AUG 74
OCT
DEC
FEB 75
APR
11.00
10.50
10.00
9.50
9.00
CORRTEMP DEG C
5422FILTER1D
10.80
10.30
9.80
9.30
CORRTEMP DEG C
5432FILTER1D
10.45
9.95
9.45
CORRTEMP DEG C
5452FILTER1D
9.60
9.10
8.60
CORRTEMP DEG C
5462FILTER1D
13.95
12.45
10.95
9.45
CORRTEMP DEG C
5482FILTER1D
11.90
10.40
8.90
7.40
CORRTEMP DEG C
5492FILTER1D
AUG 74
OCT
DEC
FEB 75
APR

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A COMPILATION OF MOORED CURRENT METER DATA AND ASSOCIATED OCEANOGRAPHIC OBSERVATIONS, VOLUME XIX (POLYMODE ARRAY I DATA) by Ann Spencer, Carol Mills and Richard Payne. 47 pages. March 1979. Prepared for the Office of Naval Research under Contracts N00014-66-C-0241; NR 083-004 and N00014-74-C-0262; NR 083-004 and for the National Science Foundation Office of the IDOE under Grants GX-29054 and OCE 75-03962.

Summaries of observations from moored stations taken during POLYMODE Array 1 are presented. Currents and water temperatures were measured at various depths, including 500, 800, 1000, 2000 and 4000 meters.

Data series are of 9 months duration from August 1974 to May 1975.

Low passed east and north current components are displayed as vector stick diagrams and progressive vector plots. Basic 1-hour current meter and temperature data are displayed as time series plots, spectral plots and in statistical tables.

Selected CTD data are presented as potential temperature and salinity values plotted against pressure, and as T-S diagrams.

1. POLYMODE
2. Moored Instruments
3. Ocean Currents

I. Spencer, Ann
II. Mills, Carol
III. Payne, Richard
IV. N00014-66-C-0241; NR 083-004
V. N00014-74-C-0262; NR 083-004
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